

**2005 CALIFORNIA STATEWIDE RESIDENTIAL  
LIGHTING AND APPLIANCE  
EFFICIENCY SATURATION STUDY**

**APPENDIX**

**AUGUST 4, 2005**

**PREPARED FOR CALIFORNIA'S INVESTOR OWNED UTILITIES  
SAN DIEGO GAS AND ELECTRIC  
SOUTHERN CALIFORNIA GAS COMPANY  
SOUTHERN CALIFORNIA EDISON  
PACIFIC GAS AND ELECTRIC**

**PREPARED BY:**



**RLW ANALYTICS**

**1055 BROADWAY, SUITE G  
SONOMA, CA 95476**

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## **Onsite Survey Instrument**

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A software application was developed by RLW for mini PC (HP IPAQ) computers. The application contained the questions shown in the following survey.

Customer: \_\_\_\_\_ Customer ID # \_\_\_\_\_

Address \_\_\_\_\_ City: \_\_\_\_\_ Phone: \_\_\_\_\_

Inspector \_\_\_\_\_

Date \_\_\_\_\_

Time \_\_\_\_\_ Money Order# \_\_\_\_\_

### **Occupant Interview - Introduction**

Hello, my name is \_\_\_\_\_ with ASW Engineering, working on behalf of (UTILITY NAME).

I'm here to meet with \_\_\_\_\_. (Show Identification, and business card.)

[Customer should be expecting inspector].

### **On-Site Interview**

During my visit I'll be asking a few questions about your home's primary lighting fixtures and major appliances. Then I'll go on to inspect your heating and cooling equipment, washer, dryer, dishwasher, refrigerator, freezer, water heating equipment, and the insulation levels in your home. Do you have any questions regarding my visit?

### **General Information**

1. Type of Residence?

- Single Family, Unattached, One story
- Single Family, Unattached, Two story
- Single Family, Unattached, Three or more stories
- Townhouse, Duplex, Triplex, Quadplex or Rowhouse
- Modular/prefabricated
- Apartment/Condo with more than 4 units (1 or 2 stories)
- Apartment/Condo with more than 4 units (3 or more stories)
- Mobile Home, Single Wide
- Mobile Home, Double Wide
- Other \_\_\_\_\_

2. How many people live in this household in the following age ranges?

- Under 1 year \_\_\_\_\_

- 2 to 5 years \_\_\_\_\_
- 6 to 18 years \_\_\_\_\_
- 19 to 29 years \_\_\_\_\_
- 30 to 49 years \_\_\_\_\_
- 50 to 64 years \_\_\_\_\_
- 65 or more years \_\_\_\_\_

3. What is the primary language of the home?

- English
- Spanish
- Russian
- Italian
- French
- Other \_\_\_\_\_
- Chinese
- Vietnamese
- Japanese
- Indian
- Korean

4. What is the total annual income for the home?

- < \$25,000
- \$25,001 - \$50,000
- \$50,001 - \$75,000
- \$75,001 - \$100,000
- > \$100,000
- D/K
- Refused

5. In what year was the house built? \_\_\_\_\_ (Only one source for the age of the residence is needed)

- 1950 or Earlier
- 1951-1955
- 1956-1960
- 1961-1965
- 1966-1970
- 1971-1975
- 1976-1980
- 1981-1985
- 1986-1990
- 1991-1995
- 1996-2000
- 2001-2005
- Don't Know

6. Which of the categories shown best describes the total heated floorspace in your home? Your best estimate will do.

- Fewer than 600 square feet
- 600 to 999 square feet
- 1,000 to 1,599 square feet
- 1,600 to 1,999 square feet

- 2,000 to 2,399 square feet     2,400 to 2,999 square feet
- 3,000 or more square feet     Don't Know

7. Has the home been remodeled in the last 10 years?

- Yes [goto 8A]     No [go to q9]     Don't Know [go to q9]

7A. What was the nature of the remodel? (check all that apply)

- kitchen appliances
- lighting-(hard wired fixtures)
- Other/Cosmetic [If only cosmetic or other, goto q9]
- All

8. If hard wired lighting was remodeled , which rooms were remodeled?

	Yes	No
8A. Whole House	<input type="radio"/>	<input type="radio"/>
8B. Kitchen	<input type="radio"/>	<input type="radio"/>
8C. Bathroom	<input type="radio"/>	<input type="radio"/>
8D. Exterior	<input type="radio"/>	<input type="radio"/>
8E. Bedroom (s)	<input type="radio"/>	<input type="radio"/>
8F. Living Room	<input type="radio"/>	<input type="radio"/>
8G. Dining Room	<input type="radio"/>	<input type="radio"/>
8G. Other	<input type="radio"/>	<input type="radio"/>

9. Are there plans to remodel the house in the next two years?  Yes  No  D/K  
**(If no or DK, skip to Q10.)**

9a. What will be the nature of the remodel? (check all that apply)

- kitchen appliances
- lighting-hard wired fixtures
- cosmetic or other
- All

D/K

10. Do you rent or own this home?

Own/Buying (Done)    Rent [goto 10a]    Occupied without payment of rent [goto 10a]

10a. Who pays the electric bill?    Occupant    Landlord

10b. Who pays the gas bill?    Occupant    Landlord

## **Thermostat**

11. What type of thermostat does the house have?

- Digital – unknown
- Digital – non programmable
- Digital – 2 D
- Digital – 5 D
- Digital – 7D
- Hybrid
- Mechanical
- Not Observable
- Unknown
- None
- Other

## **Heating System(s)**

The following information is collected for all heating systems in use by customer.

12. Fuel Type

- Gas
- Fuel Oil
- Elec.
- Kerosene
- Solar
- Propane
- Wood/1 cord/Year
- Wood/2 cord/Year
- Wood/3 cord/Year
- Wood/4 cord/Year
- Wood/5 cord/Year
- Wood/6 cord/Year
- Pellet
- Don't Know

13. System Type

- Baseboard
- Wall Unit with Fan
- Wall Unit w/out Fan
- Heatpump w/Elec Supp
- Heatpump no Elec. Supp
- Heatpump 2 w/Elec Supp
- Heatpump 2 no Elec. Supp
- Forced Air
- Portable
- Hydronic
- Floor
- Ceiling Cable
- Fireplace
- Pellet Stove
- Window unit Resistance
- Common Heating (Shared)
- Other
- Don't Know

14. Manufacturer? (from nameplate)

15. Model Number? (from nameplate)

16. MFG Date (from nameplate)



17. Reported Age (from customer)
  
18. Efficiency (if yellow energy guide label still there)
  
19. Efficiency Units (if yellow energy guide label still there)
  - COP
  - AFUE
  - HSPF
  - DK
  
20. Input Capacity (from nameplate)
  
21. Output Capacity (from nameplate)
  
22. Capacity Units (from nameplate)
  - kW
  - kBTU/h
  - DK
  - NA
  
23. Primary System?
  - Yes
  - No

### **Cooling System(s)**

The following information is collected for all cooling systems in use by customer.

24. Primary
  - Yes
  - No
  
25. Usage
  - Occasionally
  - Moderate
  - Nearly daily
  - Not at all
  - Usually gone in summer
  
26. System Type
  - Split A/C
  - Split HP
  - Packaged A/C
  - Packaged HP
  - Window/wall

- Evaporative
- Whole House Fan
- Ground Source HP
- DK
- Other

27. Manufacturer? (from nameplate)

28. Model Number? (from nameplate)

29. MFG Date (from nameplate)

30. Reported Age (from customer)

31. Efficiency (if yellow energy guide label still there)

32. Efficiency Units (if yellow energy guide label still there)

- SEER
- EER
- NA
- DK

33. Capacity (from nameplate, kbtu)

34. Capacity Units (from nameplate)

- kW
- kBTU/h
- DK
- NA

### **Clothes Washer**

35. Type of washer?

- Standard
- Horizontal axis
- None
- Stacked Washer / Dryer (one model # for whole unit)

36. Manufacturer

37. Model #

38. Customer Reported Age

39. MFG Date (from nameplate if any)

## **Clothes Dryer**

40. Is there a clothes dryer?
- Yes, used for all loads
  - Yes, used for most loads
  - Yes, infrequent use
  - No
  - Unknown
41. Manufacturer
42. Model #
43. Customer Reported Age
44. MFG Date (from nameplate if any)
45. Fuel Type
- Gas
  - Electric

## **Dishwasher**

46. Is there a dishwasher?
- Yes
  - No
47. Manufacturer
48. Model #
49. Customer Reported Age
50. MFG Date

## **Refrigerator(s)**

### **Primary Refrigerator/Freezer:**

51. Type
- Side By Side
  - Standard
  - Freezer on Bottom
  - Built-In
  - Half or quarter size (no add'l data needed)
  - Refrigerator Only
  - No Refrigerator

52. Options

- None
- Ice maker
- Water Service
- W&I Door Svc

53. Size

- Very Small (<10 CuFt)
- Small (11-14 CuFt)
- Medium (15-18 CuFt)
- Large (19-22 CuFt)
- Very Large (>22 CuFt)
- Don't Know

54. Usage

- Primary-always
- Secondary-0%
- Secondary-25%
- Secondary-50%
- Secondary-75%
- Secondary Always
- Third – 0%
- Third – 25%
- Third – 50%
- Third – 75%
- Third Always

55. Manufacturer

56. Model number

57. Customer Reported Age

58. MFG Date (name plate)

**Self Standing Freezer(s)**

59. Type

- Upright
- Chest
- None

60. Usage

- Never
- 25%
- 50%
- 75%
- Always

61. Size

- Very Small (<10 CuFt)
- Small (11-14 CuFt)
- Medium (15-18 CuFt)
- Large (19-22 CuFt)
- Very Large (>22 CuFt)
- Don't Know

62. Manufacturer

63. Model number

64. Customer Reported Age

65. MFG Date (name plate)

**Water Heater**

66. Type:

- |   |  |
|---|--|
| <input type="radio"/> Gas Storage         | <input type="radio"/> Solar/Gas Storage      |
| <input type="radio"/> Propane Storage     | <input type="radio"/> Solar/Electric Storage |
| <input type="radio"/> Electric Storage    | <input type="radio"/> Solar/Propane          |
| <input type="radio"/> Gas Instantaneous   | <input type="radio"/> Solar                  |
| <input type="radio"/> Elec. Instantaneous | <input type="radio"/> Common Boiler          |
| <input type="radio"/> Heatpump            | <input type="radio"/> Don't Know             |

67. Efficiency (Energy Factor) \_\_\_\_\_ (if Yellow Energy Guide present)

68. Gallons?

69. Internal Tank Insulation (if listed): R-\_\_\_\_\_

70. External tank wrap?

- Yes, Conditioned Space
- No, Conditioned Space
- Yes, Unconditioned Space

- No, Unconditioned Space
- DK

71. Customer Reported Age

72. Input KW (If electric): \_\_\_\_\_

73. Input kBtuh (If gas): \_\_\_\_\_

74. Manufacturer

75. Model #

76. Customer Reported Age

77. MFG Date

**Insulation** (if customer has any contractor invoices regarding insulation, use these instead of visual inspection for the following)

78. What type of construction are the walls?

- 2 x 4
- 2 x 6
- Masonry
- Other
- Don't Know

79. What percentage of the exterior walls in the home are insulated?

- 0%
- 25%
- 50%
- 75%
- 100%
- DK

80. Estimate Wall Insulation R-Value:

- <R-11
- R-11
- R-13
- R-14
- R-15
- R-19
- Not observable
- None

81. Type of Attic insulation?

- Batt
- Blown
- Combo (both batt and blown)
- None
- Adiabatic
- Don't Know

82. Blown-in attic insulation (estimate number of inches): \_\_\_\_\_

83. Attic/Ceiling Batt insulation R-Value:

- |         |                  |
|---------|------------------|
| ▪ <R-11 | ▪ R-22           |
| ▪ R-11  | ▪ R-30           |
| ▪ R-28  | ▪ R-36           |
| ▪ R-13  | ▪ R-38           |
| ▪ R-14  | ▪ R-49           |
| ▪ R-15  | ▪ Not observable |
| ▪ R-19  | ▪ Adiabatic      |
| ▪ R-21  | ▪ None           |

84. Floor insulation?

- |         |                  |
|---------|------------------|
| ▪ <R-11 | ▪ R-22           |
| ▪ R-11  | ▪ R-30           |
| ▪ R-28  | ▪ R-36           |
| ▪ R-13  | ▪ R-38           |
| ▪ R-14  | ▪ R-49           |
| ▪ R-15  | ▪ Not observable |
| ▪ R-19  | ▪ Adiabatic      |
| ▪ R-21  | ▪ None           |

**Windows**

85. What is the predominant window type in the home?

Frame Type	Panes	Low E Coating	Storm
Metal	Single	Yes	Yes
Wood	Double	No	No
Vinyl	Triple		
Other			

**Pools and Spas**

86. Is there a pool?

- Yes
- No

87. Does the pool have a heater?

- Yes
- No
- Yes, not used

88. What is the pool heater manufacturer?

89. What is pool heater model number?

90. What is the fuel type for the pool heater?

- Gas
- Propane
- Electric
- Solar
- Solar / Gas
- Solar / Propane
- Solar / Electric
- Other

91. What is the pool heater capacity?

92. Pool heater capacity units

- kW
- kBTU/h

93. Pool pump manufacturer?

94. Pool pump model number?

95. Pool pump HP?

96. Pool pump efficiency?

97. Is there a spa?

- Yes
- No

98. What is the spa fuel?

- Gas
- Propane
- Electric
- Solar



- Solar / Gas
- Solar / Propane
- Solar / Electric
- Other

Room Types	Fixture Types	Lamp Types	Lamp Descriptions
Basement	Archit. Integrated	CF-I-A	Compact fluorescent type A-style-lamp, integrated ballast (screw base)
Bathroom - 1	Ceiling Fan	CF-I-CAP	Compact fluorescent type Capsule, integrated ballast (screw base)
Bathroom - 2	Ceiling Fixtures	CF-I-CIRC	Compact fluorescent type Circline integrated ballast screw base
Bathroom - 3	Chandelier / Hanging	CF-I-DEC	Compact fluorescent type decorative, integrated ballast (screw base)
Bathroom - Master	Floor Lamp	CF-I-FLOOD	Compact fluorescent type PAR/FLOOD/REF, integrated ballast (screw base)
Bedroom - 1	Garage Door Opener	CF-I-GLO	Compact fluorescent type globe integrated ballast (screw base)
Bedroom - 2	Other	CF-I-SPRN	Compact fluorescent type spring lamp, integrated ballast (screw base)
Bedroom - 3	Recessed lighting-Other	CF-I-Tube	Compact fluorescent type tube integrated ballast (screw base)
Bedroom - 4	Recessed can	CF-I-UNK	Compact fluorescent type unknown, integrated ballast (screw base)
Bedroom - Master	Table lamps	CF-Mini	Any CFL with mini screw base
Breakfast Nook	Torchiere	CF-PIN-Base	Compact fluorescent type all, non-integrated ballast (pin base)
Closet	Track lighting	F-12	T-12 Fluorescent
Dining Rm	Under Counter	F-4	T-4 Fluorescent
Family Room	Wall mount	F-5	T-5 Fluorescent
Garage		F-8	T-8 Fluorescent
Hall		F-CIR	T-12 or T-8 Circular
Kitchen		F-OTH	Other Fluorescent Tube
Laundry Rm		F-TUBE-UNK	Unknown fluorescent tube lamp
Living Rm		HAL-MR	MR-16 pin based halogen
Office		HAL-PAR	Halogen Parabolic Reflector
Other		HAL-QTZTUB	Halogen quartz tube
Porch		HAL-UNK	Unknown halogen type lamp
Rec Rm		HAL-OTH	Other Halogen Lamp
		HEAT LAMP	Heat Lamp
<b>Wattage</b>		I-DEC	Decorative screw based incandescent
888 - three way		I-FLOOD	Flood/PAR screw based incandescent
999 - unknown		I-GLO	Globe style screw based incandescent
		I-Mini	Any incandescent with mini screw base
		I-OTH	Other screw based incandescent
		I-STD	Standard screw based incandescent
		I-UNK	Unknown type screw based incandescent



## Lighting Fixture and Lamp Type Descriptions

The following table provides descriptions of the fixture types that were differentiated during the on-site data collection.

Fixture Type	Fixture Description
<b>Architecturally Integrated</b>	Fixtures incorporated into the structure of the residence such as valence and cove style lighting fixtures that may incorporate indirect lighting. Also includes directional fixtures for display of art and fixtures that are integrated into cabinetry.
<b>Ceiling Fan</b>	Any ceiling mounted fixture that incorporates an operable fan in the design of the fixture. This excludes bathroom fans that include a lamp in its design.
<b>Chandelier / Hanging</b>	Typical decorative chandeliers with one or more lamps. Also includes any fixture that is suspended from the ceiling by a flexible or rigid medium such as a piece of chain.
<b>Ceiling Fixture</b>	Fixtures that are mounted directly onto the ceiling surface.
<b>Floor Lamp</b>	Any fixture, excluding torchieres, which has its base directly on the floor.
<b>Garage Door Opener</b>	Garage door opener that includes a lamp.
<b>Other</b>	Any fixture not matching one of the other category descriptions.
<b>Recessed Can</b>	Cylindrical cans that are set into a ceiling with the bottom edge of the can flush with the ceiling surface (recessed). These fixtures are designed to direct the light downwards.
<b>Recessed Lighting - Other</b>	Any other shape of fixture besides a can, square for example, that is set into the ceiling and has the bottom of the fixture flush with the ceiling surface.
<b>Table Lamp</b>	Fixtures that are placed on raised surfaces. Could be an end table lamp or a desk light for example.
<b>Torchiere</b>	Floor lamps usually five to six feet in height that direct the light source upwards.
<b>Track Lighting</b>	Multiple lamps and casings mounted to a linear piece of material, which itself is attached to either a ceiling or wall surface. The individual lamps can usually be adjusted to direct the light in a specific direction.
<b>Under Counter</b>	This fixture is typically mounted underneath cabinets so they illuminate the surface under the cabinet it's mounted to.
<b>Wall Mount</b>	Fixtures that are mounted directly to a vertical wall and are not utilized to illuminate art.

The following table provides descriptions of the lamp types that were differentiated during the on-site data collection.

Lamp Type	Description
<b>Compact Fluorescent Overview</b>	Discharge lamps, with necessary ballast, available in multiple sizes that are used as energy efficient options for fixtures that typically utilize incandescent lamps. The different lamp wattage, shape, and ballast/lamp combinations of compact

	fluorescent lamps (CFL's) are briefly discussed next.
<b>Compact Fluorescent Unknown</b>	A CFL that doesn't fit into one of the other CFL categories or for a CFL whose specific type was unobservable because a fixture cover obstructed it, for example, during the on-site.
<b>Compact Fluorescent Globe</b>	An integral CFL that has the illuminating fluorescent tubes with a globe-shaped covering. The lamp tubes are not visible to the eye because of this cover.
<b>Compact Fluorescent A Style</b>	This CFL is similar in shape to the standard A-lamp incandescent.
<b>Compact Fluorescent Capsule</b>	A CFL where the fluorescing tube is encased in frosted glass to give the lamp an appearance more like that of an incandescent.
<b>Compact Fluorescent Circline</b>	This CFL is ring-like in shape, but has a screw-base, more commonly found in table lamps.
<b>Compact Fluorescent Decorative</b>	A CFL designed to have the appearance of a decorative incandescent lamp, commonly found in chandeliers.
<b>Compact Fluorescent Flood</b>	A CFL commonly found in recessed can fixtures. This CFL has the shape of an incandescent flood lamp.
<b>Compact Fluorescent Spring</b>	The most common type of CFL. These lamps have no cover and therefore the spiraling fluorescent tubes are visible giving a spring like appearance.
<b>Compact Fluorescent Tubular</b>	This CFL has its tubes in the shape of a square, which results in a thin lamp profile useful for torchiere and some recessed ceiling fixture applications.
<b>Compact Fluorescent Mini</b>	These are similar to the CFL Decorative except the screw base is smaller in diameter. These are the same base size as the incandescent mini lamps.
<b>Compact Fluorescent Reflector</b>	This lamp type is a CFL which incorporates a parabolic aluminized reflective surface to reflect light onto the illuminated surface.
<b>Compact Fluorescent Pin Base</b>	The only CFL with a modular ballast (the ballast is separate from the lamp). These lamps have a pin base and the light emitting tubes are often in a rectangle shape.
<b>Fluorescent Overview</b>	Refers to type of lamps that utilize a glass tube, gases, and electric currents to produce light. Types of fluorescent lamps that are differentiated for this project are discussed.
<b>Fluorescent T12</b>	Multiple length linear fluorescent tubes with a diameter of one and a half inches. Differentiation between standard and low watt T12 lamps wasn't made on site.
<b>Fluorescent T4</b>	Multiple length linear fluorescent tubes with a diameter of one-half an inch. These are common in under counter fixtures in kitchens.
<b>Fluorescent T5</b>	Multiple length linear fluorescent tubes with a diameter of five-eighths of an inch. These are common in under counter fixtures in kitchens.
<b>Fluorescent T8</b>	Multiple length linear fluorescent tubes with a diameter of one inch.
<b>Fluorescent Circline</b>	T12 or T8 fluorescent tubes that are circular in shape.
<b>Fluorescent Other</b>	A possible example of an 'other' fluorescent lamp is U-tube fluorescent lamps.
<b>Fluorescent Tube Unknown</b>	A type of fluorescent lamp that the surveyor was unable to identify. This type would have been selected if the surveyor were unable to verify lamp because the fixture was

	inaccessible, the customer didn't want surveyor to open fixture, or the surveyor couldn't identify the type but knew that it was a fluorescent lamp.
<b>Halogen Overview</b>	Halogen lamps utilize incandescent lamp technology with the exception that a halogen gas is added. They have different shapes than incandescent lamps and are usually more compact.
<b>MR-16 Pin Based Halogen</b>	A small, pin based, halogen lamp with a reflective surface. These are commonly found in desk/table lamps or track lighting.
<b>Halogen Other</b>	Any identified tubular or capsulated halogen lamp not in the categories listed.
<b>Halogen Parabolic Reflector</b>	A screw-in halogen lamp enclosed in a capsule with a reflective surface. A piece of textured glass covers the light source, thus making it easy to distinguish between a parabolic reflector halogen and a reflective incandescent.
<b>Halogen Quartz Tube</b>	Single ended and double ended halogen lamps that utilize a tubular shape. The lamps are not encapsulated like the parabolic reflector type.
<b>Halogen Unknown</b>	Any type of halogen lamp that the surveyor was unable to identify.
<b>Incandescent Overview</b>	Incandescent lamps utilize the passing of electric current through a filament causing the filament to emit light. All incandescent lamps screw in the light socket.
<b>Heat Lamp</b>	A high wattage incandescent lamp often found in bathrooms whose main purpose is to emit infrared radiation to warm the room.
<b>Incandescent Standard</b>	Typical A-lamp incandescent lamps with an elliptical shape that becomes wider towards the top of the lamp.
<b>Incandescent Decorative</b>	Incandescent lamps in the shape of candles, for example, that are used in chandeliers and other fixtures for decorative purposes.
<b>Incandescent Flood</b>	An incandescent lamp that is designed to fit into recessed cans, though it is not uncommon to be found in exterior lighting. These are encapsulated lamps with a screw-base.
<b>Incandescent Globe</b>	Types of incandescent lamps that have a round shape, as opposed to the elliptic shape of standard A-type incandescent lamps.
<b>Incandescent Mini</b>	These lamps have a smaller base than standard incandescent lamps and can come in many different shapes including globe and decorative.
<b>Incandescent Other</b>	Any type of incandescent lamp that the surveyor found and was unable to assign it to a known category.
<b>Incandescent Reflector</b>	A reflective material is applied to the inside of the lamp to reflect more light onto the illuminating surface. The top of the fixture has a larger diameter than standard A-type lamps.
<b>Incandescent Unknown</b>	Any type of incandescent lamp that the surveyor was unable to identify.
<b>Metal Halide</b>	A type of high intensity discharge lamp. While not very common in residential settings, they would most likely be found in an exterior lighting situation.

## Lighting Data Queries

### CATEGORY QUERIES

#### Categories – Gen

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone

#### Categories – Rooms

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Room	Room Type (required for all queries in this category)

### ANALYSIS QUERIES

#### Gen - Average Num Lamps by Fix Type – SBA

Basis	Special Basis Query: SB – Average Num Lamps by Fix Type
Description	Returns the average number of lamps in each fixture type

#### SB - Average Num Lamps by Fix Type

Basis	N/A
Description	This is the basis for the Gen – Average Num Lamps by Fix Type – SBA query. The query produces the average number of fixtures per home for each fixture type

#### Gen - Percent of Ceiling Fans with Bulb Count

Basis	Number of fans per home
Description	Returns the percentage of homes with 1-8 lamps per ceiling fan fixture (in one lamp increments)

#### Gen - Percent of Ceiling Fans with Lamp Types

Basis	Number of fans per home
Description	Returns the percentage of different lamp types contained within ceiling fan fixtures

**Gen - Percent of Fixtures with CFL – SBA**

Basis	Special Basis Query: SB - Percent of Fixtures with CFL
Description	Returns the percentage of fixtures that contain a compact fluorescent lamp

**SB - Percent of Fixtures with CFL**

Basis	N/A
Description	Returns the average number of fixtures per home

**Gen - Percent of Homes with CFL Quantity**

Basis	One for all sites
Description	Returns the percentage of homes containing 0-Greater than 15 compact fluorescent lamps (in one CFL increments)

**Gen - Percent of Torchieres with Lamp Types**

Basis	Number of Torchieres per Home
Description	Returns the percentage of different lamp types contain in Torchiere fixtures

**Rooms - Average Fixture Wattage – SBA**

Basis	Special Basis Query: SB - Rooms - Average Fixture Wattage
Description	Returns the average wattage for each fixture per room and whole house

**SB - Rooms - Average Fixture Wattage**

Basis	N/A
Description	Returns the average number of fixtures per room and whole house

**Rooms - Average Lamp Wattage – SBA**

Basis	Special Basis Query: SB - Rooms - Average Lamp Wattage
Description	Returns the average wattage for each lamp type per room and whole house

**SB - Rooms - Average Lamp Wattage**

Basis	N/A
Description	Returns the average quantity of each lamp type per room and whole house

**Rooms - Average LampABB Wattage – SBA**

Basis	Special Basis Query: SB - Rooms - Average LampABB Wattage
Description	Returns the average wattage for each generic lamp type by base type (CFL, Standard Screw Base, and Other Base) per room and whole house

**SB - Rooms - Average LampABB Wattage**

Basis	N/A
Description	Returns the average quantity of generic lamp types per room and whole house

**Rooms - Average Number of Fixtures by Type**

Basis	One for all homes
Description	Returns the average number of fixtures per home

**Rooms - Average Number of Lamps by Base Type**

Basis	One for all homes
Description	Returns the average number of lamps per home by base type (screw-base or pin-base)

**Rooms - Average Number of Lamps by Type**

Basis	One for all homes
Description	Returns the average number of lamps per home by specific lamp type

**Rooms - Avg Fix Wattage by LampABB Type- SBA**

Basis	Special Basis Query: SB - Rooms - Avg Fix Wattage by LampABB Type
Description	Returns the average wattage per fixture/generic lamp type (CFL, Halogen, Incandescent, Tube Fluorescent) per room and whole house

**SB - Rooms - Avg Fix Wattage by LampABB Type**

Basis	N/A
Description	Returns the average number of fixtures per room and whole house

**Rooms - Lamp and Fixture Combo Presence**

Basis	One for all rooms with lighting
Description	Returns the percentage of rooms that contain fixture types and fixture/generic lamp combinations

**Rooms - LampABB by FIX TYP**

Basis	Number of fixtures per room and whole house
Description	Returns the percentage of fixture/generic lamp combinations per room and whole house

**Rooms - LampABB Presence**

Basis	One for all rooms and whole house
Description	Returns the percentage of rooms and homes that contain generic lamp types (CFL, T12, T8, and Other Tube Fluorescent, Incandescent, Halogen, and High Intensity Discharge)

**Rooms - Number of Fixture Bins**

Basis	One for all homes
Description	Returns the percentage of homes that have fixtures in bins of ten (i.e. 1-10 fixtures, 11-20 fixtures, ..., up to greater than 50 fixtures)

**Rooms - Number of Lamps Bins**

Basis	One for all homes
Description	Returns the percentage of homes that have lamps in bins of ten (i.e. 1-10 lamps, 11-20 lamps, ..., up to greater than 50 lamps)

**Rooms - Percent CFL by Base Type**

Basis	The number of lamps in screw-based sockets
Description	Returns the percentage of lamps in screw-based sockets that are CFL

**Rooms - Percent Generic Lamp Types Large**

Basis	The total number of lamps per room and whole house
Description	Returns the percentage of lamps that are compact fluorescent, tube fluorescent, halogen, incandescent, or high intensity discharge

**Rooms - Percent Lamp Type by Technology**

Basis	The total number of lamps per home
Description	Returns the percentage of lamps that are compact fluorescent, tube fluorescent, halogen, incandescent, or high intensity discharge



**Rooms - Percent of Fixtures by Type**

Basis	Total fixtures per home
Description	Returns the percentage composition of fixtures type for the whole house

**Rooms - Percent of Lamps by Base Type**

Basis	Total lamp per home
Description	Return the percentage composition of lamps type for the whole house

**Rooms - Percent of Lamps by Control**

Basis	Total number of lamps per home
Description	Returns the percentage of lighting control types for each room and the whole house

**Rooms - Percent of Lamps by Control and Lamp Type**

Basis	Total number of lamps home
Description	Returns the percentage of generic lamp types (CFL, T12, T8, and Other Tube Fluorescent, Incandescent, Halogen, and High Intensity Discharge) by control type for each room and the whole house

**Rooms - Percent of Lamps by Type**

Basis	Total number lamps per home
Description	Returns the percentage of all lamp types per room and whole house

**Rooms - Presence of Fixture Type**

Basis	One for all homes
Description	Returns the percentage of homes with the different fixture types

**Rooms - Presence of Lamp Type**

Basis	One for all homes
Description	Returns the percentage of homes with the different lamp types

**Rooms - Room Wattage**

Basis	One for all rooms and homes
Description	Returns the average wattage for each room and whole house, as well as the relative proportion of the total wattage contributed by standard screw-base lamps (excluding CFLs), CFL, and non-standard base lamps

**Rooms - Specific Fixture Overview**

Basis	One for all homes
Description	Returns the percentage of homes containing ceiling fans, recessed cans, and torchiere, and (if present in the home) percentage of homes with those fixtures in bins

## Appliance Data Queries

### CATEGORY QUERIES

#### Categories-Cooling

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Space or Central	Space Units Serve a Single Area; Central Units Serve the Whole Home
Type of System	Split System AC, Wall/Window Unit, etc.
Cooling Tons	Capacity of System in Half Ton Bins (i.e. 0.5-0.99 tons, 1-1.49 tons, ..., greater than 5 tons)
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

#### Categories-Cooling EFF

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Space or Central	Space Units Serve a Single Area; Central Units Serve the Whole Home
Type of System	Split System AC, Wall/Window Unit, etc.
Cooling Tons	Capacity of System in Half Ton Bins (i.e. 0.5-0.99 tons, 1-1.49 tons, ..., greater than 5 tons)
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

#### Categories-Dishwasher

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence

Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Dishwasher EFF**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Dryer**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Envelope**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Wall Construction Type	2 x 4, 2 x 6, Masonry, etc.

**Categories—Gen**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site

Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone

**Categories-Heating**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Fuel	Electric, Gas, Pellet, Propane, Wood
Central or Space	Space Units Serve a Single Area; Central Units Serve the Whole Home
Type	Forced Air Furnace, Floor, Wall Unit w/Fan, etc.
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Heating EFF**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Fuel	Electric, Gas, Pellet, Propane, Wood
Central or Space	Space Units Serve a Single Area; Central Units Serve the Whole Home
Type	Forced Air Furnace, Floor, Wall Unit w/Fan, etc.
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Pool**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence

Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
FuelTyp	Electricity, Gas, Propane, Solar

**Categories-Pri Freezer**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Freezer Type	Upright or Chest
Freezer Size	<=10, 11-14, 15-18, 19-22, and >22
Freezer Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Pri Freezer EFF**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Freezer Type	Upright or Chest
Freezer Size	<=10, 11-14, 15-18, 19-22, and >22
Freezer Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Pri Refrigerator**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Refrigerator Type	Freezer On Bottom, Built-In, Side-By-Side, Top Mounted Freezer, etc
Refrigerator Size	<=10, 11-14, 15-18, 19-22, and >22

Refrigerator Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)
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**Categories-Pri Refrigerator EFF**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Refrigerator Type	Freezer On Bottom, Built-In, Side-By-Side, Top Mounted Freezer, etc
Refrigerator Size	<=10, 11-14, 15-18, 19-22, and >22
Refrigerator Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Sec Freezer**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Freezer Type	Upright or Chest
Freezer Size	<=10, 11-14, 15-18, 19-22, and >22
Freezer Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Sec Refrigerator**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Refrigerator Type	Freezer On Bottom, Built-In, Side-By-Side, Top Mounted Freezer, etc
Refrigerator Size	<=10, 11-14, 15-18, 19-22, and >22
Refrigerator Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Sec Refrigerator EFF**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Refrigerator Type	Freezer On Bottom, Built-In, Side-By-Side, Top Mounted Freezer, etc
Refrigerator Size	<=10, 11-14, 15-18, 19-22, and >22
Refrigerator Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Spa**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone

**Categories-Washer**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)
Type of Washer	Standard, Horizontal Axis, or Stacked

**Categories-Washer EFF**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence

Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)
Type of Washer	Standard, Horizontal Axis, or Stacked

**Categories-Water Heater**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Fuel	Electric, Gas, or Propane
Size	Tank Size (in Ten Gallon bins)
Unit Type	Storage or Instantaneous
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**Categories-Water Heater EFF**

SiteID	RLW Site Identification Number
Weight	Case weight
Type of Residence	Single Family Home, Apartment, etc.
Total People	Total Number of Residents at Site
Total Adults	Total Number of Adults at Site
Income	Annual Household Income Range
Home Age Range	Age Range of Residence
Total Heated Floorspace	Square Footage Range of Residence
Rent or Own	Ownership Status of Residence
Utility	Electrical Provider of Residence
Climate Zone	CEC Defined Climate Zone
Fuel	Electric, Gas, or Propane
Size	Tank Size (in Ten Gallon bins)
Unit Type	Storage or Instantaneous
System Age	Age of System (in Five Year Bins- 1990-1994, 1995-1999, etc)

**ANALYSIS QUERIES**

**Cooling EFF Efficiency Bins**

Basis	One for all homes where a SEER value was obtained
Description	Returns the average SEER value as well as percentage of units contained within SEER bins (8-8.99, 9-9.99, etc.)

**Cooling EFF Efficiency Relative to Standards**

Basis	One for all homes with central systems where SEER value was obtained
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Description	Returns the average SEER value as well as percentage of units contained within SEER bins (bins based on the federal efficiency standards)
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**Cooling Estimated Age Avg and Bins**

Basis	One for all homes where the age of the cooling system was obtained
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994, 1995-1999, etc.)

**Cooling Primary System Type**

Basis	One for all homes where the system type is known (excluding whole house fans)
Description	Returns the percentage of homes with system types, including split heat pump, packaged heat pump, split AC, packaged AC, window unit, and evaporative system

**Cooling Proportions**

Basis	One for all homes
Description	Returns the proportion of homes which fall into the user selected group by variable

**Cooling Space or Central**

Basis	One for all homes where the system is known to be either a space or central system
Description	Returns the percentage of homes that are cooled by a space or central air conditioning unit

**Cooling Ton Bins**

Basis	One for all homes where the capacity of the unit is known
Description	Returns the percentage of units contained with ½ ton bins (i.e. 0.5-0.99 tons, 1-1.49 tons, ..., greater than 5 tons)

**Dishwasher Age Avg and Bins**

Basis	One for all homes in which the dishwasher age is known
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994, 1995-1999, etc.)

**Dishwasher EFF Average Energy Factor**

Basis	One for all homes in which the dishwasher energy factor is known
Description	Returns the average energy factor

**Dishwasher EFF Energy Factor Bins**

Basis	One for all homes in which the dishwasher energy factor is known
Description	Returns the percentage of dishwashers in energy factor bins (0.275 to 0.459, 0.460 to 0.579, 0.580 to 0.775)

**Dishwasher Homes with Dishwasher**

Basis	One for all homes
Description	Returns the percentage of homes that contain a dishwasher

**Dryer Estimated Age Avg and Bins**

Basis	One for all homes in which the dryer age is known
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994, 1995-1999, etc.)

**Dryer Fuel Type**

Basis	One for all homes that have a clothes dryer
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Description	Returns the percentage of clothes dryers by fuel type (Electric, Gas, Propane)
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**Dryer Homes with Dryers**

Basis	One for all homes
Description	Returns the percentage of homes that contain a clothes dryer

**Envelope Attic Insulation R-Value Bins**

Basis	One for all homes where the attic r-value is known
Description	Returns the average attic r-value as well as the percentage of homes with attic r-values in bins (None, Between 0 and 10.99, 11 to 18.99, 19 to 21.99, 22 to 29.99, 30 to 37.99, and greater than 38)

**Envelope Floor Insulation R-Value**

Basis	One for all homes where the floor r-value is known, and is not adiabatic or slab-on-grade
Description	Returns the percentage of homes in specific r-values (Less than 11, 11, 13, 19, and None)

**Envelope Pct of Walls Insulated**

Basis	One for all homes
Description	Returns the percentage of homes where the percentage of wall insulation is known or unknown (Unknown, 0%, 25%, 50%, 75%, 100%)

**Envelope Pct Slab**

Basis	One for all homes
Description	Returns the percent of homes built slab-on-grade

**Envelope Wall Construction Type**

Basis	One for all homes
Description	Returns the percentage of homes whose wall construction is 2x4, 2x6, Masonry, or Unknown

**Envelope Wall Insulated**

Basis	One for all homes where status of wall insulation is known
Description	Returns the percentage of homes whose walls are insulated or uninsulated

**Envelope Wall Insulation R-Value**

Basis	One for all homes where the wall r-value is known
Description	Returns the percentage of homes in specific r-values (Less than 11, 11, 13, 15, 19, and 24)

**Envelope Window Frame Type**

Basis	One for all homes
Description	Returns the percentage of homes with specified frame types (Metal, Vinyl, Wood, Other)

**Envelope Window Frame Type by Num Panes**

Basis	One for all homes
Description	Returns the percentage of homes with specified frame types and number of panes (Metal, Vinyl, Wood, Other, and Single or Double-paned)

**Envelope Window LowE**

Basis	One for all homes
Description	Returns the percentage of homes with specified glass types (Clear, Low-E, or Unknown)

**Gen Demographic Proportions**

Basis	One for all homes
Description	Returns the proportion of homes which fall into the user selected group by variable

**Gen Future Remodel Type**

Basis	One for all homes in which there are plans of remodeling within the next two years
Description	Returns the percentage of homes in which there are plans to remodel (Lighting, Kitchen Appliances, Whole House, or Other)

**Gen Pays Electric Bill-Non Owners**

Basis	One for all homes
Description	Returns the percentage of homes by electricity bill payer (Landlord, Occupant, or Unknown)

**Gen Pays Gas Bill-Non Owners**

Basis	One for all homes
Description	Returns the percentage of homes by gas bill payer (Landlord, Occupant, or Unknown)

**Gen Prev Remodel Type**

Basis	One for all homes in which had been remodeled within the past ten years
Description	Returns the percentage of homes which had been remodeled (Lighting, Kitchen Appliances, Whole House, or Other)

**Gen Remodel Hardwired Lighting Room**

Basis	One for all homes which hardwired lighting had been remodeled in the past ten years
Description	Returns the percentage of homes where hardwired lighting changes were made by room

**Gen Remodel Within 2 Years**

Basis	One for all homes
Description	Returns the percentage of homes by plans to remodel (Yes, No, Unknown)

**Gen Remodeled in Past 10 Years**

Basis	One for all homes
Description	Returns the percentage of homes by past remodel status (Yes, No, Unknown)

**Gen Thermostat Types**

Basis	One for all homes where the thermostat type is known
Description	Returns the percentage of homes by type of thermostat (Mechanical, Digital, Hybrid)

**Heating Capacity Bins**

Basis	One for all homes whose heating system's capacity is known (excludes heat pumps)
Description	Returns the percentage of heating systems that fall into specified bins

**Heating EFF Average AFUE and Bins**

Basis	One for all homes where the heating system's efficiency is known (excludes heat pumps)
Description	Returns the average AFUE and the percentage of heating systems that fall into specified bins

**Heating Estimated Age Bins**

Basis	One for all homes in which the heating system age is known
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994,

	1995-1999, etc.)
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**Heating Fuel Types**

Basis	One for all homes where there is a heating system
Description	Returns the percentage of homes with the specified fuel types

**Heating Number of Heating Systems**

Basis	One for all homes
Description	Returns the percentage of homes with 0 – 5 heating systems

**Heating Primary System Type**

Basis	One for all homes with heating systems where the fuel type is known
Description	Returns the percentage of homes with specified primary system types

**Heating Proportions**

Basis	One for all homes
Description	Returns the proportion of homes which fall into the user selected group by variable

**Pool Fuel Types**

Basis	One for all homes that have a pool
Description	Returns the percentage of fuel types of pools as well as percentage of pools that we not heated

**Pool Pump Horsepower Bins**

Basis	One for all homes where the horsepower of the pool pump was known
Description	Returns the percentage of homes with the specified horsepower rated pool pumps

**Pri Freezer Avg Matched Size**

Basis	One for all primary freezers which had a volume matched from the appliance efficiency databases
Description	Returns the average volume in cubic feet for primary freezers

**Pri Freezer EFF Annual Usage Avg and Bins**

Basis	One for all primary freezers which had an annual energy consumption match from the appliance efficiency databases
Description	Return the average annual energy consumption, the average federal appliance energy use standard, as well as the percentage of primary freezers that fall into specified bins of annual energy consumption

**Pri Freezer EFF Comparison to Standards**

Basis	One for all primary freezers which had an annual energy consumption match from the appliance efficiency databases
Description	Return the average annual energy consumption as well as the average federal appliance energy use standard

**Pri Freezer EFF Comparison to Standards Bins**

Basis	One for all primary freezers which had an annual energy consumption match from the appliance efficiency databases
Description	Returns the average percentage relative to the federal appliance standard for freezers as well as the percentage of primary freezers that fall into specified bins of percentage of energy use compared to the federal standard

**Pri Freezer Estimated Age Avg and Bins**

Basis	One for all homes in which the freezer age is known
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994, 1995-1999, etc.)

**Pri Freezer Homes with 1 or 2 Freezers**

Basis	One for all homes
Description	Returns the percentage of homes the have one freezers as well as the percentage that have two freezers

**Pri Freezer Size of Freezer**

Basis	One for all homes where the range of volume for the primary freezer is known
Description	Returns the percentage of primary freezers that fall into specified volume ranges

**Pri Freezer Type of Freezer**

Basis	One for all homes that have a freezer
Description	Returns the percentage of homes with upright and chest primary

**Pri Refrigerator EFF AEC Bins**

Basis	One for all primary refrigerators which had an annual energy consumption match from the appliance efficiency databases
Description	Returns the percentage of primary refrigerators that fall into specified bins of annual energy consumption

**Pri Refrigerator EFF Avg Energy Consumption**

Basis	One for all primary refrigerators which had an annual energy consumption match from the appliance efficiency databases
Description	Returns the average annual energy consumption of primary refrigerators

**Pri Refrigerator EFF Consumption to Natl Stnd**

Basis	One for all primary refrigerators which had all the necessary information with which to calculate the federal energy use standard
Description	Returns the average percentage of energy use for the primary refrigerator compared to the federal standard

**Pri Refrigerator EFF Consumption to Natl Stnd Bins**

Basis	One for all primary refrigerators which had all the necessary information with which to calculate the federal energy use standard
Description	Returns the average percentage of energy use for the primary refrigerator compared to the federal standard, as well as the percentage of refrigerators that fall into specified bins

**Pri Refrigerator EFF Energy Star**

Basis	One for all primary refrigerators which had all the necessary information with which to calculate the federal energy use standard
Description	Returns the percentage of refrigerators that meet the ENERGY STAR qualifications as of 2001 and 2004

**Pri Refrigerator Estimated Manufacture Date**

Basis	One for all homes in which the refrigerator estimated or manufactured age is known
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994,

	1995-1999, etc.)
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**Pri Refrigerator Homes with 2 or 3 Refrigerators**

Basis	One for all homes
Description	Returns the percentage of homes with two or three refrigerators, either full-sized or compact

**Pri Refrigerator Manufacture Date**

Basis	One for all homes in which the refrigerator manufactured age is known
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994, 1995-1999, etc.)

**Pri Refrigerator Refrigerator Types**

Basis	One for all homes
Description	Returns the percentage of refrigerators that fall into the specified refrigerator types

**Pri Refrigerator Volume**

Basis	One for all primary refrigerators which had a volume matched from the appliance efficiency databases
Description	Returns the average volume in cubic feet for primary refrigerators

**Pri Refrigerator Volume Bins**

Basis	One for all primary refrigerators where the range of volume is known
Description	Returns the percentage of primary refrigerators that fall into specified volume ranges

**Sec Refrigerator EFF AEC Bins**

Basis	One for all secondary refrigerators which had an annual energy consumption match from the appliance efficiency databases
Description	Returns the percentage of secondary refrigerators that fall into specified bins of annual energy consumption

**Sec Refrigerator EFF Avg Energy Consumption**

Basis	One for all secondary refrigerators which had an annual energy consumption match from the appliance efficiency databases
Description	Returns the average annual energy consumption of secondary refrigerators

**Sec Refrigerator EFF Consumption to Natl Stnd**

Basis	One for all secondary refrigerators which had all the necessary information with which to calculate the federal energy use standard
Description	Returns the average percentage of energy use for the secondary refrigerator compared to the federal standard

**Sec Refrigerator EFF Energy Star**

Basis	One for all secondary refrigerators which had all the necessary information with which to calculate the federal energy use standard
Description	Returns the percentage of refrigerators that meet the ENERGY STAR qualifications as of 2001 and 2004

**Sec Refrigerator Estimated Manufacture Date**

Basis	One for all homes in which the refrigerator estimated or manufactured age is known
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994, 1995-1999, etc.)

	1995-1999, etc.)
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**Sec Refrigerator Manufacture Date**

Basis	One for all homes in which the refrigerator manufactured age is known
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994, 1995-1999, etc.)

**Sec Refrigerator Types**

Basis	One for all homes with a secondary refrigerator
Description	Returns the percentage of refrigerators that fall into the specified refrigerator types

**Sec Refrigerator Volume**

Basis	One for all secondary refrigerators which had a volume matched from the appliance efficiency databases
Description	Returns the average volume in cubic feet for secondary refrigerators

**Sec Refrigerator Volume Bins**

Basis	One for all secondary refrigerators where the range of volume is known
Description	Returns the percentage of secondary refrigerators that fall into specified volume ranges

**Spa Fuel Type**

Basis	One for all homes with a spa
Description	Returns the percentage of homes with spas with respect to heating fuel type

**Spa Saturation**

Basis	One for all homes with a spa
Description	Returns the percentage of homes with a spa

**Washer Age Avg and Bins**

Basis	One for all homes in which the washing machine age is known
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994, 1995-1999, etc.)

**Washer EFF Average Energy Factor**

Basis	One for all homes with clothes washers where the energy factor is known
Description	Returns the average energy factor

**Washer EFF Energy Factor Bins**

Basis	One for all homes with clothes washers where the energy factor is known
Description	Returns the percentage of clothes washers that fall into specified energy factor bins

**Washer Homes with Washing Machine**

Basis	One for all homes
Description	Returns the percentage of homes that contain a clothes washer

**Washer Type of Washer**

Basis	One for all homes with a clothes washer
Description	Returns the percentage of clothes washers that are horizontal axis, stacked, or standard axis

**Water Heater EFF Average Energy Factor**

Basis	One for all homes where the water heater energy factor is known
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Description	Returns the average energy factor
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**Water Heater EFF Energy Factor Bins**

Basis	One for all homes where the water heater energy factor is known
Description	Returns the percentage of water heaters with energy factors that fall into specified bins

**Water Heater Estimated Average Age and Bins**

Basis	One for all homes in which the water heater age is known
Description	Returns the average age as well as the percentage of units in five year bins (1990-1994, 1995-1999, etc.)

**Water Heater Fuel Type**

Basis	One for all water heaters with known fuel types
Description	Returns the percentage of water heaters that are heated by electricity, natural gas, propane, and solar

**Water Heater Proportions**

Basis	One for all homes
Description	Returns the proportion of homes which fall into the user selected group by variable

**Water Heater Size Avg and Bins**

Basis	One for all water heaters that have a known tank capacity
Description	Returns the average water heater tank capacity, as well as the percentage of tanks that fall into specified bins

**Water Heater Tank Wrap**

Basis	One for all water heaters
Description	Returns the percentage of water heaters that were either covered or not covered by an external insulating blanket, and those where the blanket status was unknown