



Northeast Residential Lighting Hours-of-Use Study

FINAL

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Submitted to:

**Connecticut Energy Efficiency Board
Cape Light Compact**

Massachusetts Energy Efficiency Advisory Council

National Grid Massachusetts

National Grid Rhode Island

**New York State Energy Research and Development
Authority**

NSTAR Electric

Unitil

Western Massachusetts Electric

Submitted by:

NMR Group, Inc.

DNV GL

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Appendix A HOU by Room Type by Income and by Home Type

This appendix presents HOU data by room type, income, home type, and combined income and home type.

Table A-1: HOU for Low-Income Households by Room

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	3.0 (2.3, 3.6) g	2.3 (2.1, 2.6) gh	2.0 (1.1, 3.0) g	1.8 (1.2, 2.4) gh	2.3 (2.1, 2.5) gh	4.0 (2.2, 5.8)	5.0 (4.1, 6.0) abcde	3.8 (3.0, 4.6) bde
Bathroom	2.2 (1.4, 3.0)	2.2 (1.8, 2.5) gh	1.6 (0.5, 2.6) gh	2.6 (1.9, 3.3)	2.2 (1.9, 2.5) gh	2.4 (1.1, 3.7)	5.2 (2.7, 7.7) bce	4.4 (2.7, 6.2) bce
Kitchen	5.1 (4.2, 6.0) c	4.2 (3.9, 4.5) c fgh	2.4 (1.0, 3.8) abefgh	3.9 (3.1, 4.6) fgh	4.2 (3.9, 4.5) c fgh	7.0 (4.8, 9.2) bcde	9.1 (6.0, 12.3) bcde	7.2 (5.2, 9.2) bcde
Living Space	3.8 (2.9, 4.6)	3.1 (2.8, 3.4) g	3.5 (2.4, 4.6)	3.4 (2.7, 4.1)	3.2 (2.9, 3.5) g	5.0 (3.2, 6.8)	5.7 (3.7, 7.7) be	4.6 (3.2, 6.0)
Dining Room	3.5 (2.4, 4.6) f	3.0 (2.5, 3.5) f	2.5 (0.6, 4.5) f	3.2 (2.3, 4.0) f	3.1 (2.6, 3.5) f	7.1 (4.8, 9.5) abcdegh	2.9 (1.3, 4.6) f	2.8 (1.9, 3.7) f
Exterior	5.5 (4.7, 6.4) g	4.5 (4.1, 4.9) g	5.0 (3.7, 6.4) g	4.4 (3.9, 4.9) g	4.5 (4.1, 5.0) g	--	0.6 (0.0, 1.1) abcdeh	3.9 (2.4, 5.5) g
Other	1.8 (1.3, 2.3) g	1.6 (1.4, 1.8) gh	1.4 (0.8, 2.1) gh	1.8 (1.4, 2.3) g	1.6 (1.4, 1.8) gh	3.8 (1.2, 6.5)	4.5 (2.6, 6.3) abcde	3.5 (2.3, 4.8) bce
Overall	3.2 (2.9, 3.5) bcg	2.7 (2.6, 2.8) afgh	2.2 (1.7, 2.7) afgh	2.8 (2.6, 3.1) fgh	2.8 (2.7, 2.9) fgh	4.6 (3.4, 5.8) bcde	5.7 (4.3, 7.0) abcde	4.3 (3.4, 5.2) bcde

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^h – Statistically different at the 90% confidence level from NYSERDA Overall

Table A-2: Sample Sizes, Low-Income Households

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	46	338	16	54	454	18	50	104
Bathroom	32	197	12	50	291	24	49	99
Kitchen	33	258	12	52	355	20	43	95
Living Space	32	243	13	48	336	19	37	85
Dining Room	17	101	1	29	148	7	15	44
Exterior	5	83	1	19	108	1	3	22
Other	44	361	18	60	483	13	41	101
Overall	209	1581	73	312	2175	102	238	550

Table A-3: HOU for Non-Low-Income Households by Room

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	2.3 (1.7, 3.0)	1.6 (1.1, 2.0) fg	2.8 (2.0, 3.7)	1.7 (1.0, 2.3) fg	1.9 (1.5, 2.2) fg	3.2 (2.8, 3.7) bdeh	2.9 (2.5, 3.2) bde	2.3 (2.0, 2.6) f
Bathroom	1.3 (0.6, 2.0) f	1.3 (0.8, 1.8) fg	1.3 (0.4, 2.2)	1.5 (0.8, 2.2)	1.3 (1.0, 1.7) fg	2.8 (2.2, 3.5) abe	2.5 (2.0, 2.9) be	2.1 (1.7, 2.4)
Kitchen	4.3 (3.5, 5.0) f	3.8 (3.3, 4.4) fg	4.4 (3.4, 5.4)	4.2 (3.5, 4.8) fg	4.1 (3.7, 4.4) fg	6.1 (5.4, 6.8) abde	5.9 (4.9, 6.9) bde	5.0 (4.4, 5.7)
Living Space	3.7 (3.0, 4.4)	3.5 (2.9, 4.0)	3.6 (2.6, 4.6)	2.9 (2.3, 3.6)	3.4 (3.0, 3.8)	3.5 (2.7, 4.4)	3.9 (2.9, 5.0)	3.7 (2.9, 4.4)
Dining Room	3.0 (2.2, 3.9)	2.5 (1.9, 3.2)	3.6 (2.4, 4.8)	2.3 (1.5, 3.0) g	2.7 (2.2, 3.1)	3.8 (2.6, 4.9)	4.1 (3.1, 5.2) d	3.3 (2.5, 4.1)
Exterior	6.4 (5.9, 7.0) g	5.9 (5.5, 6.3) cg	7.4 (6.7, 8.0) bdegh	6.1 (5.7, 6.6) cg	6.2 (5.8, 6.6) cg	--	3.9 (2.4, 5.4) abcde	4.9 (3.7, 6.1) c
Other	1.7 (1.4, 2.0)	1.9 (1.5, 2.3)	1.9 (1.4, 2.4)	1.6 (1.3, 1.9)	1.8 (1.5, 2.0)	3.3 (1.7, 4.8)	2.4 (1.7, 3.1)	1.9 (1.5, 2.3)
Overall	2.7 (2.4, 2.9) fg	2.6 (2.4, 2.8) fg	2.9 (2.6, 3.3)	2.5 (2.2, 2.7) fg	2.6 (2.5, 2.8) fg	3.7 (3.0, 4.3) abde	3.4 (3.0, 3.7) abde	2.9 (2.5, 3.2)

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^h – Statistically different at the 90% confidence level from NYSERDA Overall

Table A-4: Sample Sizes, Non-Low-Income Households

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	54	113	31	73	271	90	138	211
Bathroom	47	95	25	57	224	95	136	193
Kitchen	46	93	21	68	228	84	125	193
Living Space	53	106	22	65	246	83	123	188
Dining Room	35	70	15	43	163	44	75	118
Exterior	9	31	6	14	60	0	13	27
Other	96	86	39	89	310	46	117	206
Overall	340	594	159	409	1502	442	727	1136

Table A-5: HOU for Multifamily¹ Households by Room

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	2.7 (2.1, 3.4)	2.3 (1.8, 2.8) f	3.1 (2.1, 4.2)	2.0 (1.5, 2.5) fg	2.3 (2.0, 2.6) fg	3.4 (2.9, 4.0) bde	3.1 (2.7, 3.5) de	2.9 (2.5, 3.2)
Bathroom	2.1 (1.3, 2.8)	1.9 (1.3, 2.4)	2.6 (1.5, 3.7)	2.1 (1.6, 2.7)	2.0 (1.7, 2.4)	2.7 (2.2, 3.3)	2.6 (2.1, 3.0)	2.6 (2.1, 3.0)
Kitchen	4.9 (4.1, 5.6) d	4.0 (3.5, 4.6) fg	3.2 (1.8, 4.5) fgh	3.0 (2.4, 3.7) afgh	3.8 (3.5, 4.2) fgh	6.3 (5.6, 7.1) bcde	6.3 (5.2, 7.4) bcde	5.5 (4.6, 6.3) cde
Living Space	3.6 (2.9, 4.4)	3.3 (2.8, 3.8)	3.1 (2.0, 4.2)	3.3 (2.7, 3.9)	3.4 (3.0, 3.7)	3.9 (3.3, 4.6)	4.1 (2.9, 5.3)	3.9 (3.0, 4.8)
Dining Room	2.9 (2.1, 3.7)	2.6 (2.0, 3.3) fg	1.9 (0.5, 3.3) fg	2.7 (2.0, 3.3) fg	2.7 (2.3, 3.1) fg	4.5 (3.6, 5.3) bcde	4.6 (3.4, 5.8) bcde	4.1 (3.1, 5.0)
Exterior	6.3 (3.9, 8.3) c	6.7 (4.4, 8.5) c	11.3 (8.8, 13.5) ab	--	7.5 (5.3, 9.2)	--	--	--
Other	1.4 (0.9, 1.8) fgh	1.4 (0.9, 1.8) fgh	1.4 (0.5, 2.3) f	2.1 (1.6, 2.7)	1.5 (1.2, 1.8) fgh	3.4 (2.4, 4.5) abce	2.9 (2.1, 3.7) abe	2.8 (2.1, 3.5) abe
Overall	2.8 (2.6, 3.1) fg	2.7 (2.4, 2.9) fgh	2.8 (2.3, 3.4) f	2.5 (2.3, 2.8) fgh	2.7 (2.5, 2.8) fgh	4.0 (3.5, 4.4) abcde	3.8 (3.3, 4.3) abde	3.5 (3.1, 4.0) bde

¹ – Includes multifamily properties with five or more units

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Table A-6: Sample Sizes, Multifamily Households

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	42	89	13	82	226	108	151	233
Bathroom	31	70	10	62	173	119	155	217
Kitchen	38	83	9	64	194	104	139	203
Living Space	36	80	11	58	185	102	133	191
Dining Room	19	35	3	33	90	51	65	98
Exterior	1	3	1	0	5	1	1	1
Other	55	70	8	39	172	59	101	140
Overall	222	430	55	338	1045	544	745	1083

Table A-7: HOU for Single-Family¹ Households

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	2.6 (2.0, 3.2)	2.0 (1.7, 2.2)	2.4 (1.7, 3.1)	1.5 (0.8, 2.1)	2.0 (1.8, 2.3)	--	2.3 (1.7, 2.9)	1.9 (1.5, 2.2)
Bathroom	1.4 (0.8, 2.0)	1.7 (1.4, 2.1)	0.9 (0.2, 1.6)	1.7 (1.1, 2.3)	1.6 (1.3, 1.9)	--	1.4 (0.9, 2.0)	1.8 (1.3, 2.3)
Kitchen	4.5 (3.8, 5.2)	4.0 (3.7, 4.4)	3.9 (3.1, 4.8)	4.7 (4.1, 5.3)	4.2 (3.9, 4.5)	--	5.2 (4.0, 6.5)	5.1 (4.4, 5.8)
Living Space	3.8 (3.2, 4.4)	3.3 (2.9, 3.7)	3.5 (2.7, 4.4)	2.9 (2.3, 3.5)	3.3 (3.0, 3.6)	--	5.2 (3.5, 6.8)	3.5 (2.8, 4.3)
Dining Room	3.4 (2.6, 4.1)	2.8 (2.3, 3.2)	3.8 (2.7, 4.9)	2.3 (1.7, 3.0)	2.8 (2.5, 3.2)	--	3.5 (1.2, 5.8)	2.9 (2.0, 3.8)
Exterior	6.0 (5.4, 6.5) _g	5.4 (5.1, 5.8)	6.0 (5.4, 6.6) _g	5.4 (5.0, 5.8)	5.5 (5.1, 5.8)	--	3.8 (2.3, 5.3) _{ac}	4.7 (3.7, 5.7)
Other	1.9 (1.6, 2.2)	1.8 (1.5, 2.0)	1.6 (1.2, 2.0)	1.6 (1.3, 1.9)	1.8 (1.6, 1.9)	--	1.7 (0.9, 2.4)	1.7 (1.3, 2.0)
Overall	2.9 (2.6, 3.1)	2.7 (2.6, 2.8)	2.5 (2.2, 2.8)	2.6 (2.4, 2.9)	2.7 (2.6, 2.8)	--	2.9 (2.0, 3.8)	2.6 (2.3, 3.0)

¹ – Includes multifamily properties with four or fewer units
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Table A-8: Sample Sizes, Single-Family Households

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	58	362	34	45	499	0	37	82
Bathroom	48	222	27	45	342	0	30	75
Kitchen	41	268	24	56	389	0	29	85
Living Space	49	269	24	55	397	0	27	82
Dining Room	33	136	13	39	221	0	25	64
Exterior	13	111	6	33	163	0	15	48
Other	85	377	49	110	621	0	57	167
Overall	327	1745	177	383	2632	0	220	603

Table A-9: HOU for Multifamily¹ Low-Income Households by Room

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	2.8 (1.9, 3.7)	2.6 (2, 3.1) gh	3.6 (1.9, 5.4)	2.0 (1.2, 2.7) gh	2.5 (2.0, 2.9) gh	4.0 (2.2, 5.8)	4.6 (3.5, 5.7) bde	4.0 (3.2, 4.8) bde
Bathroom	2.3 (1.1, 3.4)	2.0 (1.2, 2.7)	2.2 (0.7, 3.8)	2.4 (1.5, 3.3)	2.2 (1.6, 2.7)	2.4 (1.1, 3.7)	3.7 (2.2, 5.2)	4.1 (2.5, 5.8)
Kitchen	5.5 (4.2, 6.9)	4.2 (3.5, 5.0) gh	3.4 (1.3, 5.3) g	3.6 (2.5, 4.6) fgh	4.2 (3.7, 4.8) gh	7.0 (4.8, 9.2) d	8.3 (6.1, 10.6) bcde	7.4 (5.3, 9.5) bde
Living Space	3.9 (2.8, 5.0)	3.5 (2.8, 4.2)	3.6 (2.0, 5.2)	3.8 (2.8, 4.8)	3.7 (3.1, 4.2)	5.0 (3.2, 6.8)	5.4 (3.9, 6.9)	5.1 (3.7, 6.4)
Dining Room	3.2 (1.8, 4.6) f	2.6 (1.7, 3.6) f	--	3.3 (2.3, 4.3) f	3.0 (2.2, 3.6) f	7.1 (4.8, 9.5) abdeh	5.4 (3.3, 7.6)	3.4 (2.2, 4.6) f
Exterior	--	1.8 (0.2, 4.1)	--	--	1.8 (0.2, 4.1)	--	--	--
Other	1.6 (0.9, 2.2) gh	1.4 (0.9, 1.9) gh	1.5 (0.3, 3.1)	2.3 (1.6, 3.0)	1.6 (1.3, 2.0) gh	3.8 (1.2, 6.5)	4.3 (2.7, 5.9) abe	4.0 (2.6, 5.5) abe
Overall	3.1 (2.7, 3.6) g	2.8 (2.5, 3.1) fgh	3.0 (2.1, 3.9) g	2.8 (2.4, 3.2) fgh	2.9 (2.6, 3.1) fgh	4.7 (3.4, 6.0) bde	5.1 (4.1, 6.0) abcde	4.5 (3.6, 5.4) bde

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Table A-10: Sample Sizes, Multifamily Low-Income Households

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	22	67	4	36	129	18	39	75
Bathroom	15	48	4	31	98	24	43	74
Kitchen	18	61	4	28	111	20	38	66
Living Space	17	58	5	26	106	19	33	59
Dining Room	7	22	0	18	47	7	12	30
Exterior	0	3	0	0	3	1	1	1
Other	23	50	2	23	98	13	32	55
Overall	102	309	19	162	592	102	198	360

Table A-11: HOU for Multifamily¹ Non-Low-Income Households by Room

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	2.6 (1.8, 3.4)	1.5 (0.8, 2.3) fg	2.8 (1.6, 4.0)	2.0 (1.4, 2.6) f	2.1 (1.7, 2.5) f	3.2 (2.7, 3.7) bde	2.9 (2.5, 3.3) b	2.6 (2.3, 3.0)
Bathroom	1.9 (1.0, 2.8)	1.6 (0.8, 2.4)	3.0 (1.6, 4.6)	1.8 (1.1, 2.6)	1.9 (1.4, 2.4)	2.8 (2.3, 3.4)	2.5 (2.1, 3.0)	2.4 (1.9, 2.8)
Kitchen	3.9 (3.0, 5.0) f	3.4 (2.5, 4.3) fg	3.6 (2.0, 5.3) f	2.9 (2.1, 3.6) fgh	3.3 (2.8, 3.8) fgh	6.1 (5.4, 6.8) abcde	6.0 (4.9, 7.0) bde	5.1 (4.1, 6.1) de
Living Space	3.3 (2.4, 4.3)	2.8 (1.9, 3.6)	3.0 (1.5, 4.4)	2.9 (2.2, 3.6)	3.0 (2.4, 3.5)	3.5 (2.9, 4.2)	3.8 (2.6, 4.9)	3.7 (2.5, 4.8)
Dining Room	2.7 (1.6, 3.8)	2.6 (1.7, 3.6)	1.9 (0.5, 3.4)	2.1 (1.1, 3.0)	2.4 (1.8, 3.0)	3.8 (3.0, 4.5)	4.2 (3.0, 5.4)	3.9 (2.7, 5.1)
Exterior	12.2 (10.5, 14) c	--	17.7 (15.8, 19.6) a	--	15 (13.3, 16.6)	--	--	--
Other	1.2 (0.8, 1.7) f	1.3 (0.7, 1.8) f	1.4 (0.6, 2.2) f	1.9 (1.3, 2.5)	1.4 (1.1, 1.7) f	3.3 (2.3, 4.3) abce	2.6 (1.7, 3.5)	2.4 (1.5, 3.2)
Overall	2.6 (2.2, 2.9) f	2.2 (1.8, 2.5) fgh	3.0 (2.4, 3.7)	2.3 (2.0, 2.6) fg	2.4 (2.2, 2.6) fg	3.6 (3.1, 4.1) abde	3.5 (2.9, 4.0) bde	3.1 (2.6, 3.6) b

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Table A-12: Sample Sizes, Multifamily Non-Low-Income Households

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	20	22	9	46	97	90	112	158
Bathroom	16	22	6	31	75	95	112	143
Kitchen	20	22	5	36	83	84	101	137
Living Space	19	22	6	32	79	83	100	132
Dining Room	12	13	3	15	43	44	53	68
Exterior	1	0	1	0	2	0	0	0
Other	32	20	6	16	74	46	69	85
Overall	120	121	36	176	453	442	547	723

Table A-13: HOU for Single-Family¹ Low-Income Households by Room

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	3.1 (2.2, 4.0)	2.2 (1.9, 2.6)	1.5 (0.4, 2.6)	1.7 (0.7, 2.7)	2.2 (2.0, 2.5)	--	3.9 (1.7, 6.0)	2.6 (1.7, 3.4)
Bathroom	2.3 (1.2, 3.4)	2.2 (1.8, 2.7)	1.5 (0.3, 2.7)	2.7 (1.6, 3.8)	2.2 (1.8, 2.6)	--	2.7 (0.6, 4.8)	2.8 (1.8, 3.9)
Kitchen	4.4 (3.1, 5.6)	4.2 (3.7, 4.6)	2.7 (1.0, 4.2)	4.3 (3.2, 5.4)	4.1 (3.8, 4.5)	--	9.8 (2.5, 17.2)	5.6 (3.9, 7.3)
Living Space	3.5 (2.3, 4.8)	3.0 (2.5, 3.4)	3.2 (1.8, 4.7)	2.9 (1.8, 3.9)	3.0 (2.6, 3.4)	--	2.2 (0.0, 4.4)	2.6 (1.8, 3.5)
Dining Room	3.7 (2.2, 5.2)	3.1 (2.4, 3.8)	2.5 (0.5, 4.8)	2.9 (1.4, 4.3)	3.1 (2.5, 3.8)	--	3.1 (3.0, 3.3)	3.4 (1.5, 5.3)
Exterior	6.0 (5.2, 6.8) bdeg	4.6 (4.3, 5.0) ag	5.4 (4.1, 6.7) g	4.4 (3.9, 4.9) ag	4.7 (4.3, 5.0) ag	--	0.7 (0.1, 1.4) abcdeh	3.9 (2.3, 5.5) g
Other	2.0 (1.5, 2.6)	1.6 (1.4, 1.8)	1.4 (0.8, 2.1)	1.5 (1.1, 2.0)	1.6 (1.4, 1.8)	--	1.9 (0.9, 3.0)	1.8 (1.3, 2.4)
Overall	3.2 (2.8, 3.6) c	2.7 (2.6, 2.8) c	1.9 (1.4, 2.5) abe	2.8 (2.4, 3.2)	2.7 (2.6, 2.8) c	--	3.7 (2.3, 5.0)	2.8 (2.3, 3.3)

¹ – Includes multifamily properties with four or fewer units

^a – Statistically different at the 90% confidence level from Connecticut

^b – Statistically different at the 90% confidence level from Massachusetts

^c – Statistically different at the 90% confidence level from Rhode Island

^d – Statistically different at the 90% confidence level from Upstate NY

^e – Statistically different at the 90% confidence level from Overall

^f – Statistically different at the 90% confidence level from Manhattan

^g – Statistically different at the 90% confidence level from Downstate NY

^h – Statistically different at the 90% confidence level from NYSERDA Overall

Table A-14: Sample Sizes, Single-Family Low-Income Households

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	24	271	12	18	325	0	11	29
Bathroom	17	149	8	19	193	0	6	25
Kitchen	15	197	8	24	244	0	5	29
Living Space	15	185	8	22	230	0	4	26
Dining Room	10	79	1	11	101	0	3	14
Exterior	5	80	1	19	105	0	2	21
Other	21	311	16	37	385	0	9	46
Overall	107	1272	54	150	1583	0	40	190

Table A-15: HOU for Single-Family¹ Non-Low-Income Households by Room

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	2.1 (1.2, 3.1)	1.6 (1.0, 2.3)	2.6 (1.5, 3.8)	1.4 (0.5, 2.4)	1.8 (1.4, 2.3)	--	2.1 (1.5, 2.7)	1.7 (1.3, 2.1)
Bathroom	1.2 (0.4, 2.1)	1.3 (0.6, 2.0)	1.1 (0.2, 2.1)	1.3 (0.4, 2.3)	1.2 (0.7, 1.7)	--	1.3 (0.8, 1.9)	1.6 (1.0, 2.1)
Kitchen	4.4 (3.3, 5.5)	4.0 (3.2, 4.7)	4.4 (3.1, 5.7)	4.7 (3.7, 5.6)	4.3 (3.7, 4.8)	--	4.9 (3.7, 6.2)	5.0 (4.2, 5.8)
Living Space	3.7 (2.7, 4.7)	3.6 (2.8, 4.3)	3.7 (2.3, 5.0)	3.0 (2.0, 4.1)	3.5 (2.9, 4.1)	--	5.4 (3.6, 7.1)	3.7 (2.8, 4.5)
Dining Room	3.0 (1.9, 4.3)	2.6 (1.7, 3.5)	3.5 (1.9, 5.2)	2.4 (1.3, 3.5)	2.7 (2.1, 3.4)	--	3.5 (1.1, 5.9)	2.8 (1.8, 3.8)
Exterior	6.0 (5.6, 6.5) g	6.0 (5.6, 6.4) g	6.2 (5.7, 6.7) g	5.8 (5.3, 6.2)	6.0 (5.5, 6.4)	--	3.9 (2.3, 5.5) abc	4.9 (3.7, 6.1)
Other	1.8 (1.5, 2.2)	2.0 (1.7, 2.4)	1.9 (1.4, 2.3)	1.6 (1.3, 2.0)	1.8 (1.6, 2.1)	--	1.7 (0.9, 2.5)	1.6 (1.2, 2.1)
Overall	2.7 (2.3, 3.0)	2.7 (2.4, 3.0)	2.8 (2.3, 3.2)	2.5 (2.2, 2.8)	2.7 (2.5, 2.9)	--	2.7 (1.7, 3.6)	2.5 (2.0, 2.9)

¹ – Includes multifamily properties with four or fewer units

^a – Statistically different at the 90% confidence level from Connecticut

^b – Statistically different at the 90% confidence level from Massachusetts

^c – Statistically different at the 90% confidence level from Rhode Island

^d – Statistically different at the 90% confidence level from Upstate NY

^e – Statistically different at the 90% confidence level from Overall

^f – Statistically different at the 90% confidence level from Manhattan

^g – Statistically different at the 90% confidence level from Downstate NY

^h – Statistically different at the 90% confidence level from NYSERDA Overall

Table A-16: Sample Sizes, Single-Family Non-Low-Income Households

Room	CT	MA	RI	UNY	Overall	MHT	DNY	NYSERDA
Bedroom	34	91	22	27	174	0	26	53
Bathroom	31	73	19	26	149	0	24	50
Kitchen	26	71	16	32	145	0	24	56
Living Space	34	84	16	33	167	0	23	56
Dining Room	23	57	12	28	120	0	22	50
Exterior	8	31	5	14	58	0	13	27
Other	64	66	33	73	236	0	48	121
Overall	220	473	123	233	1049	0	180	413

Appendix B Additional Maps

Figure B-1: Income Category

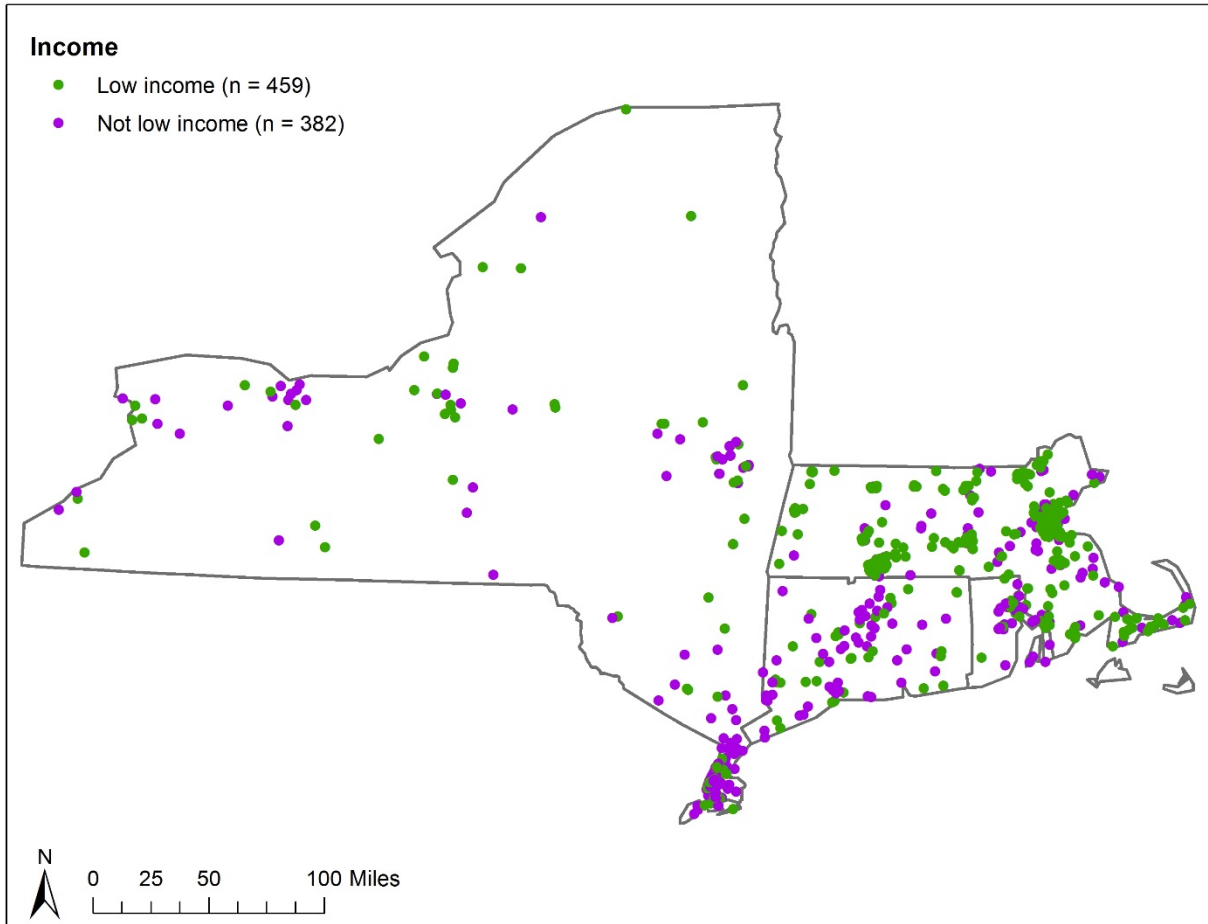


Figure B-2: Housing Type

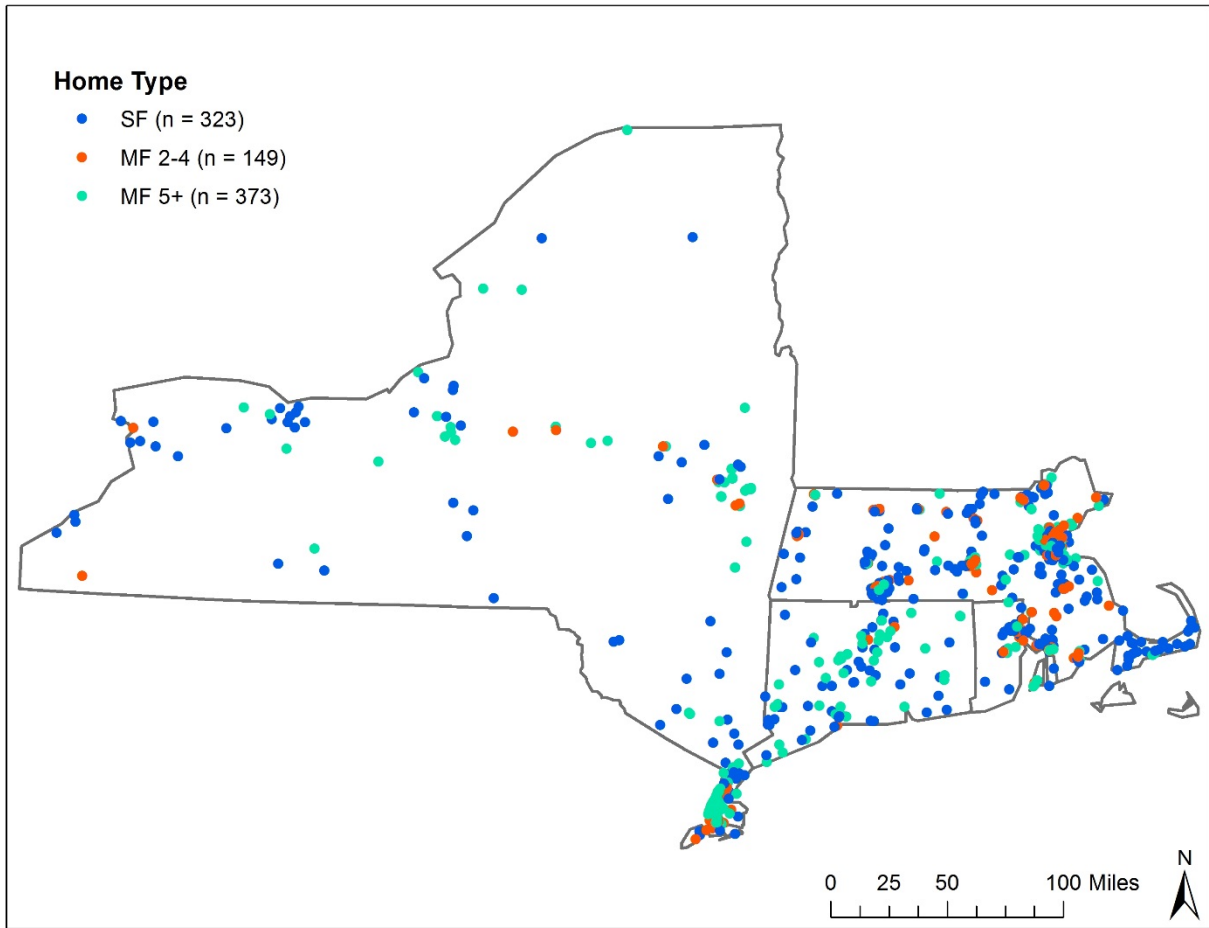


Figure B-3: Bathroom Lighting Logger Locations

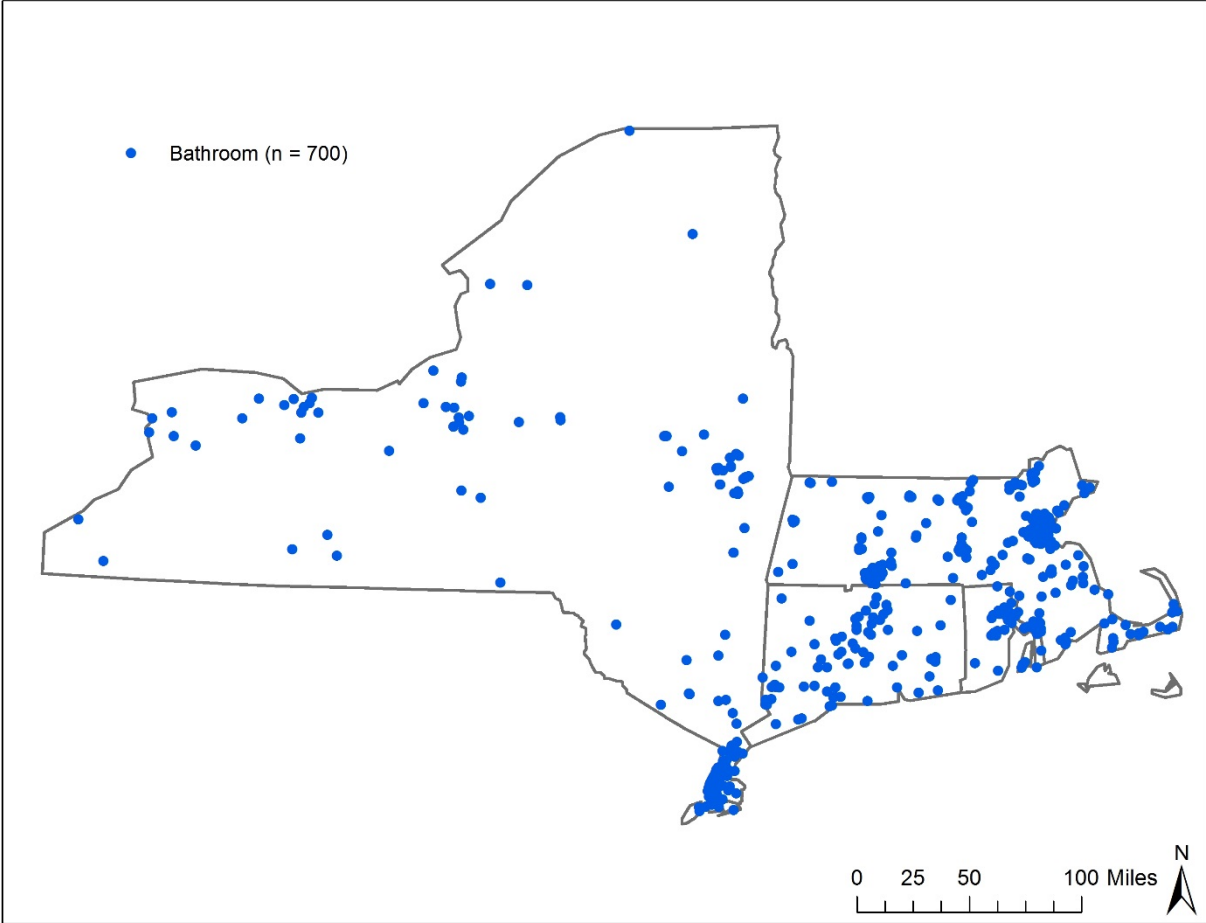


Figure B-4: Bedroom Lighting Logger Locations

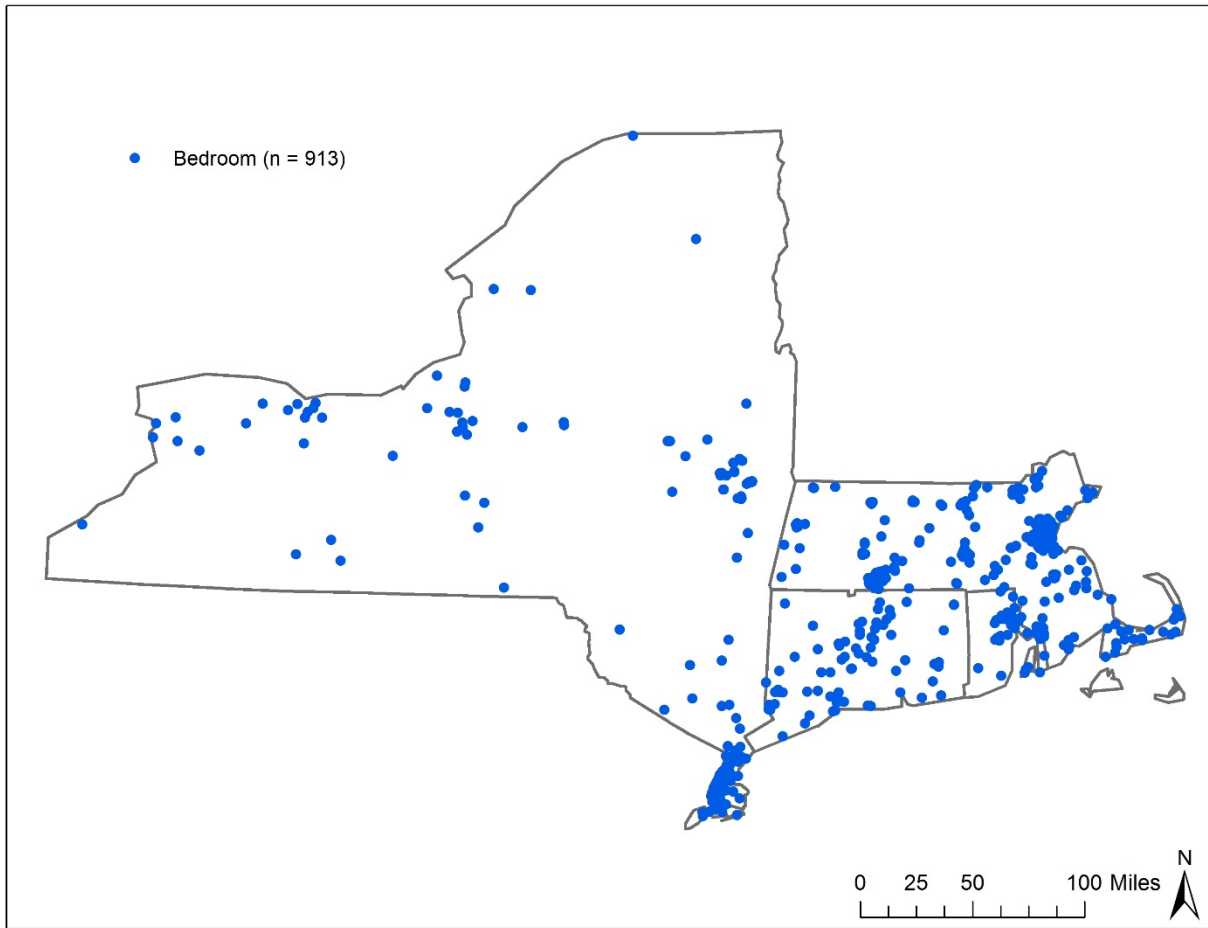


Figure B-5: Dining Room Lighting Logger Locations

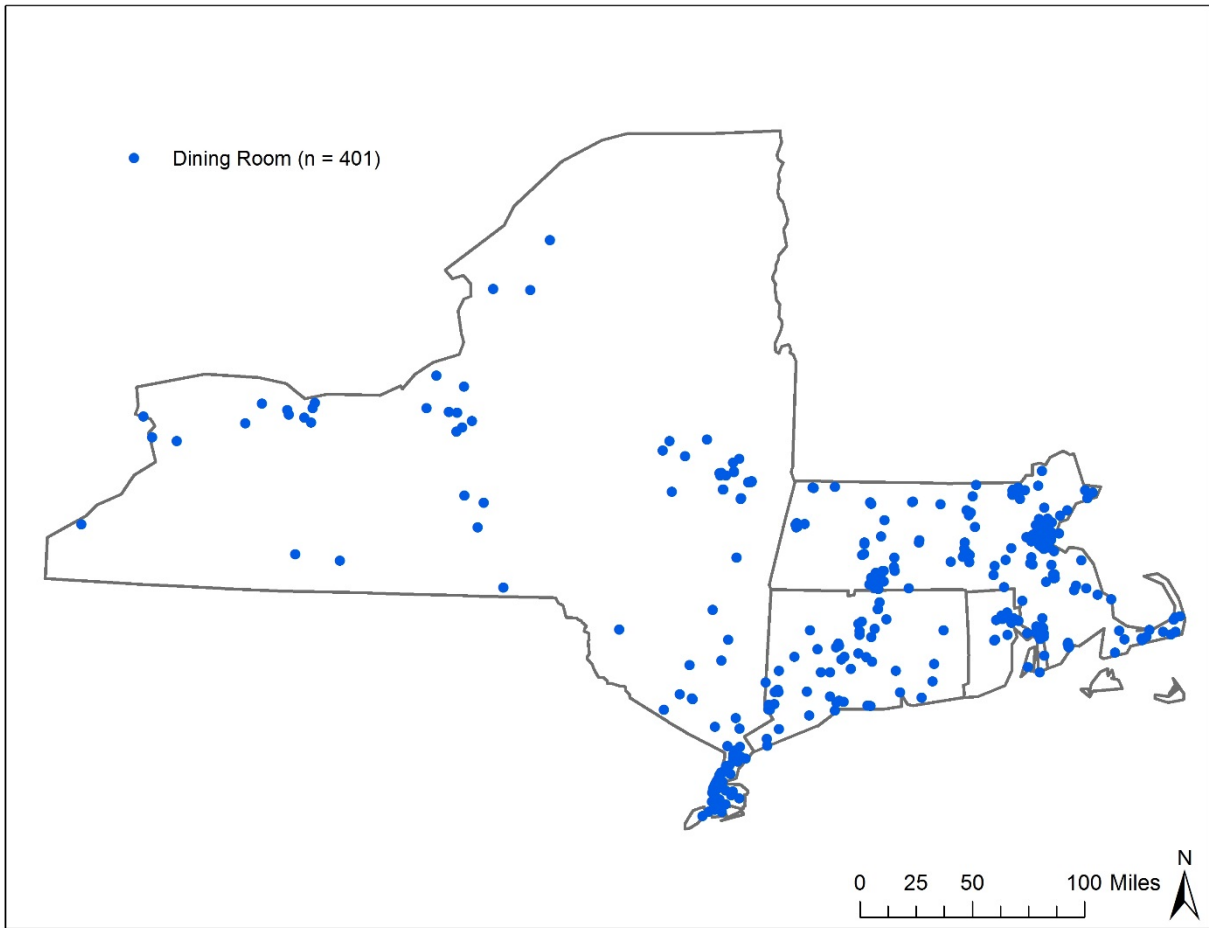


Figure B-6: Exterior Lighting Logger Locations

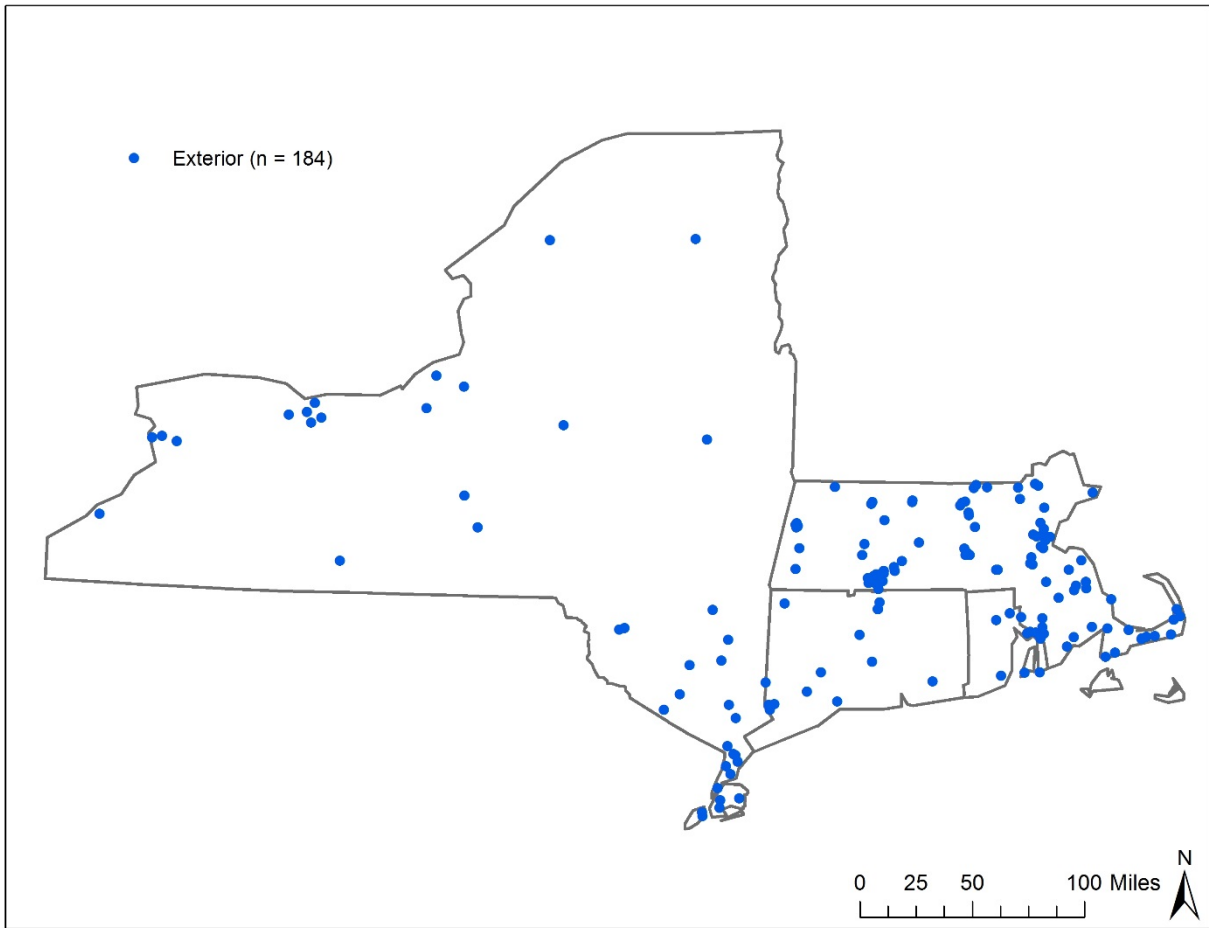


Figure B-7: Kitchen Lighting Logger Locations

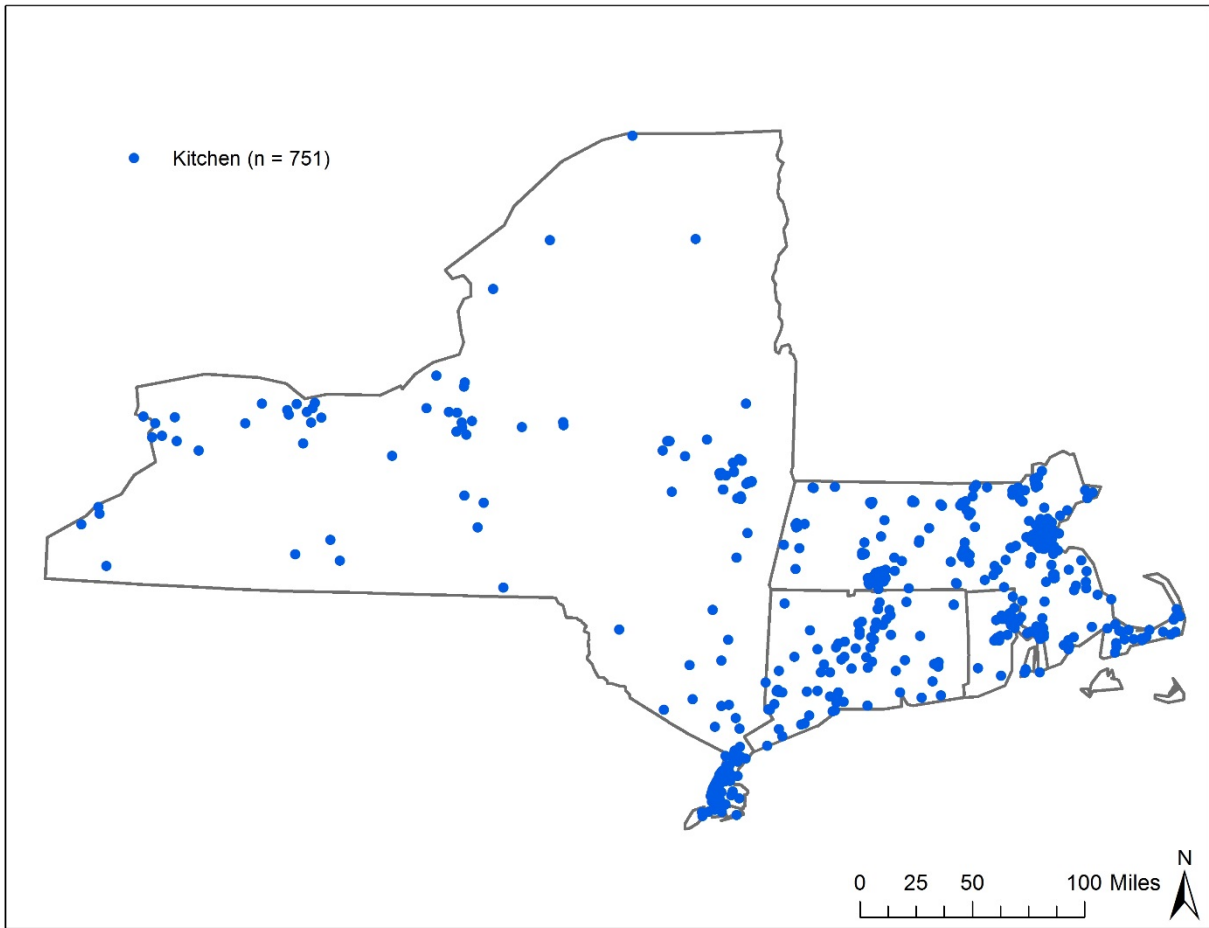
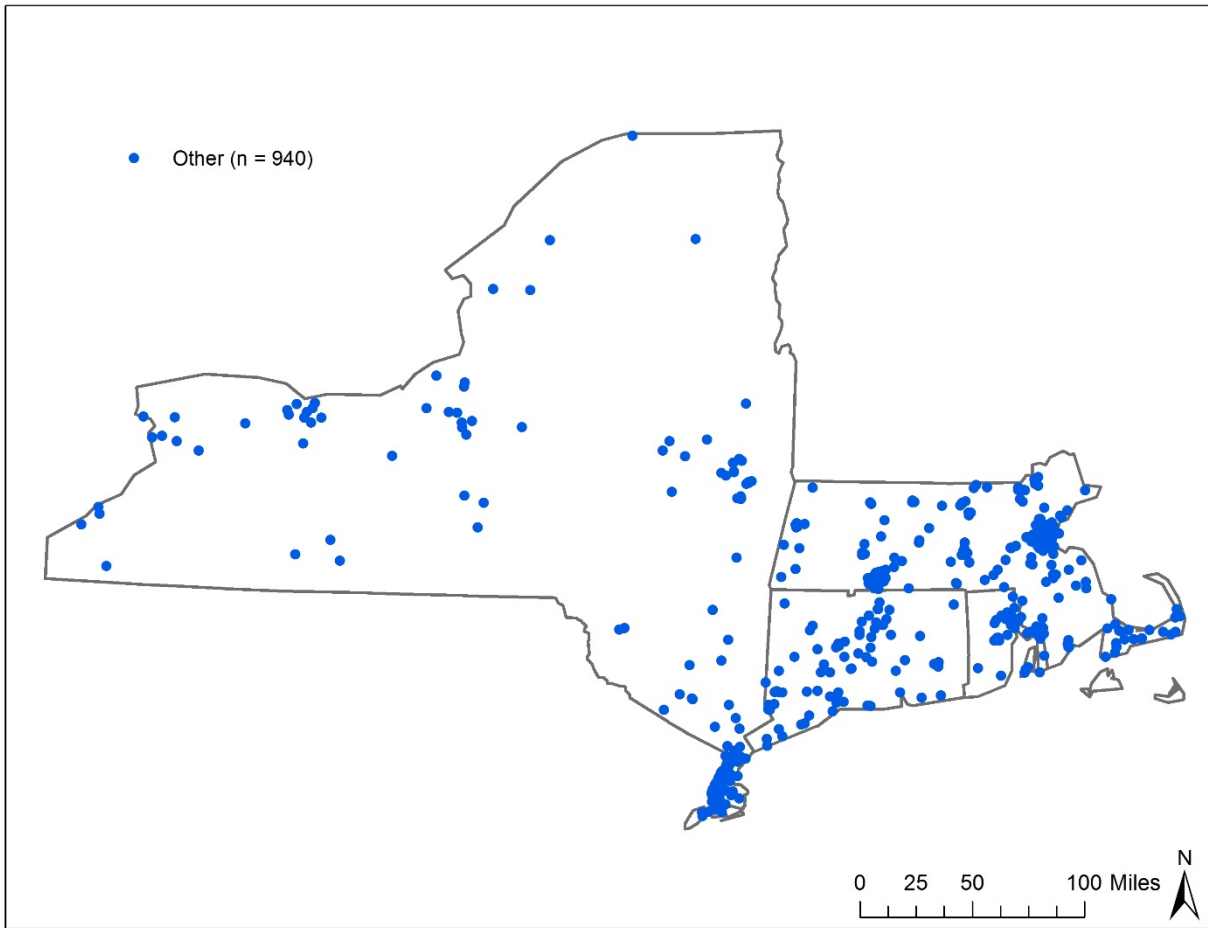


Figure B-8: Other Room Types Lighting Logger Locations¹



¹ “Other” room types include: Basement, Closet, Den, Foyer, Garage, Hall, Office, Utility, and Other

Appendix C Additional Load Curves

Figure C-1: Overall Summer and Winter Weekday vs. Weekend – All Bulbs

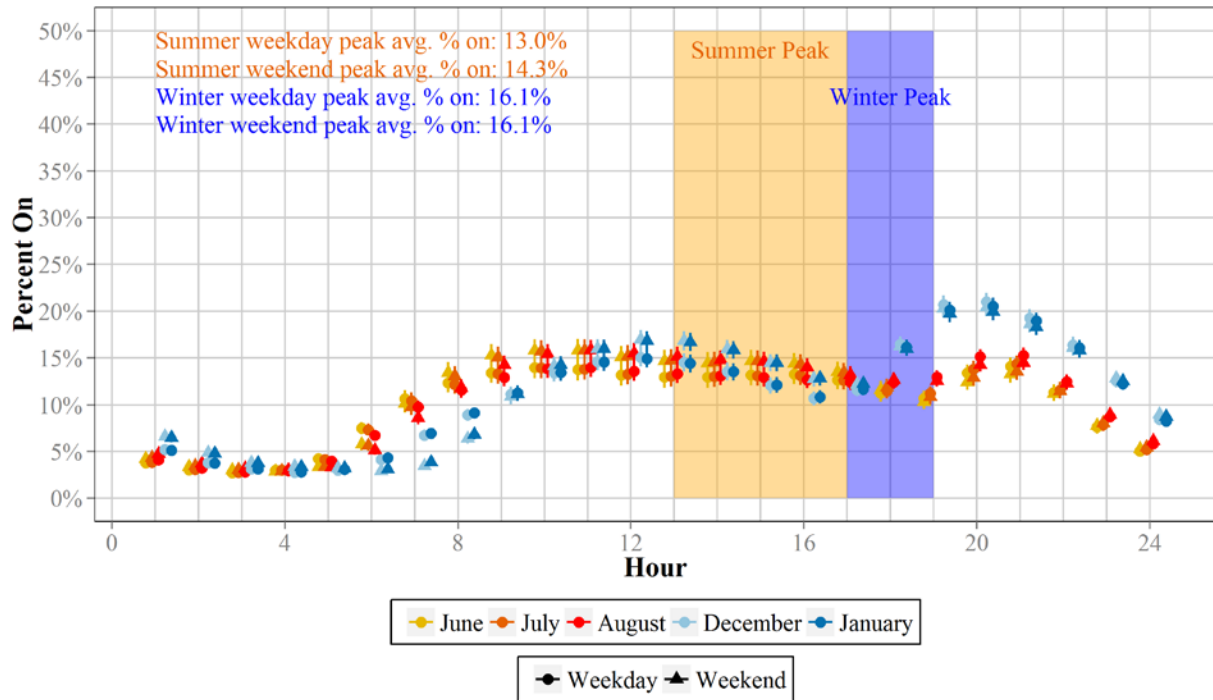


Figure C-2: Connecticut – Weekday by Month – All Bulbs

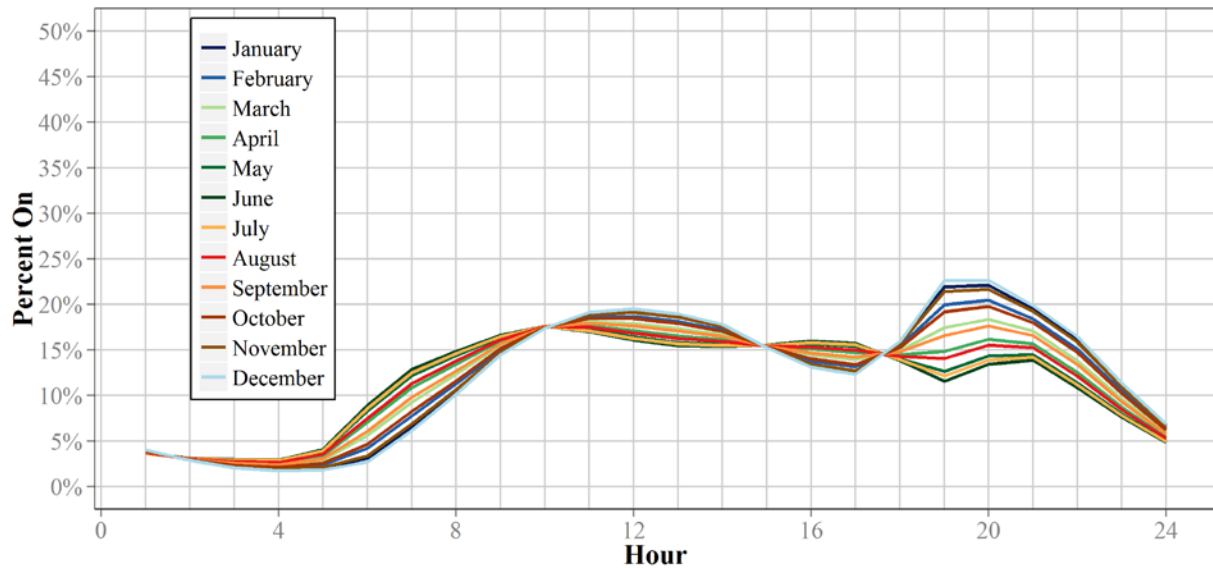


Figure C-3: Massachusetts – Weekday by Month – All Bulbs

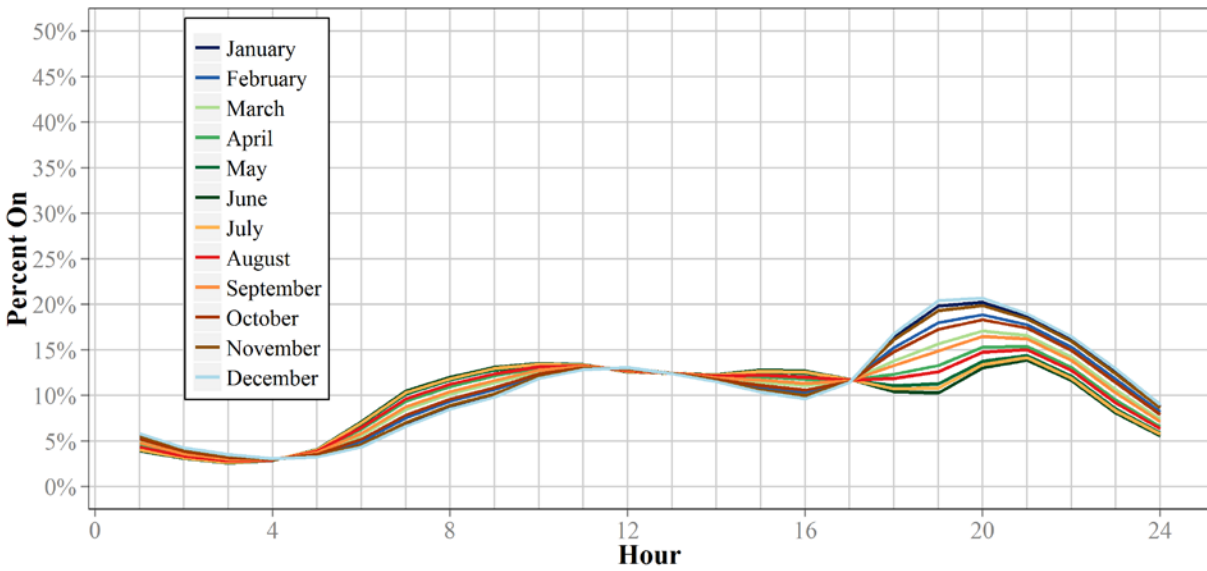


Figure C-4: Rhode Island – Weekday by Month – All Bulbs

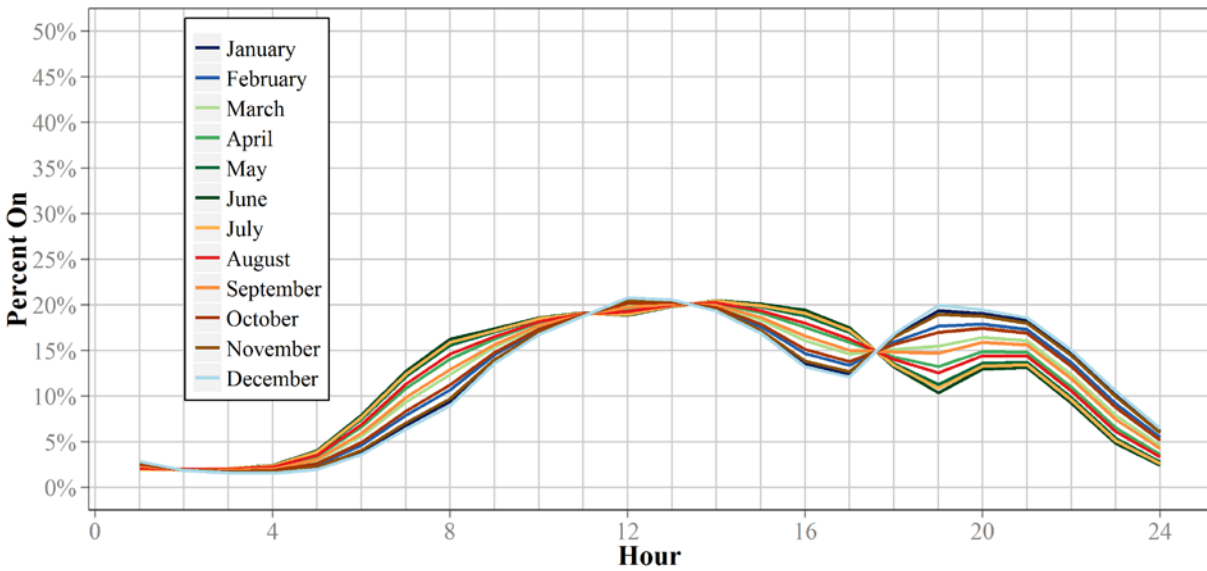


Figure C-5: Upstate New York – Weekday by Month – All Bulbs

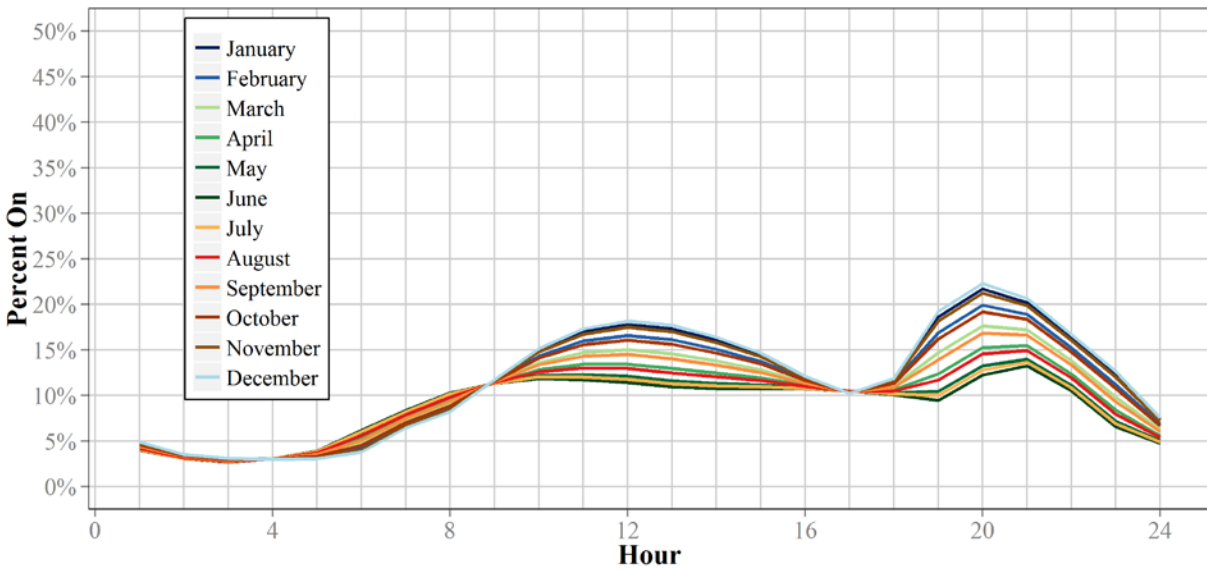


Figure C-6: Overall – Weekday by Month – All Bulbs

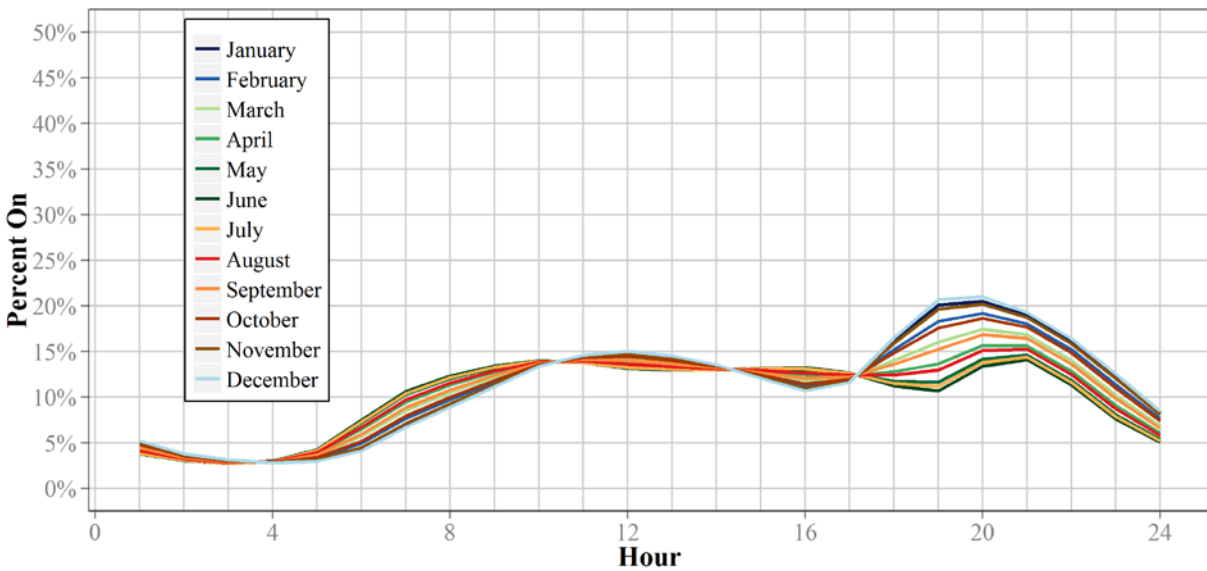


Figure C-7: Manhattan – Weekday by Month – All Bulbs

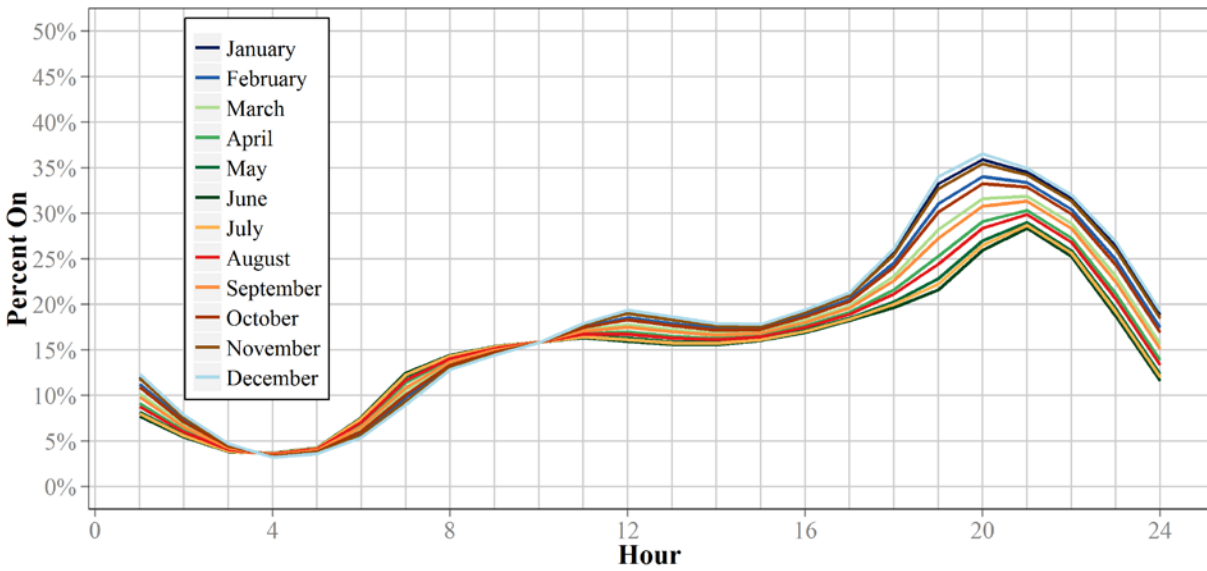


Figure C-8: Downstate New York – Weekday by Month – All Bulbs

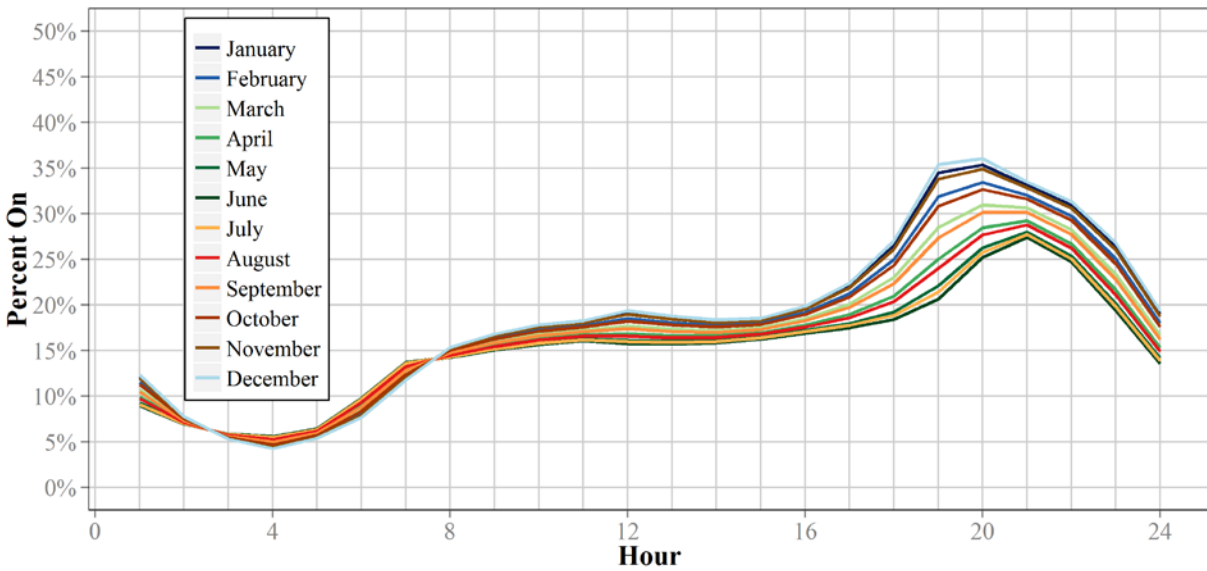


Figure C-9: NYSERDA – Weekday by Month – All Bulbs

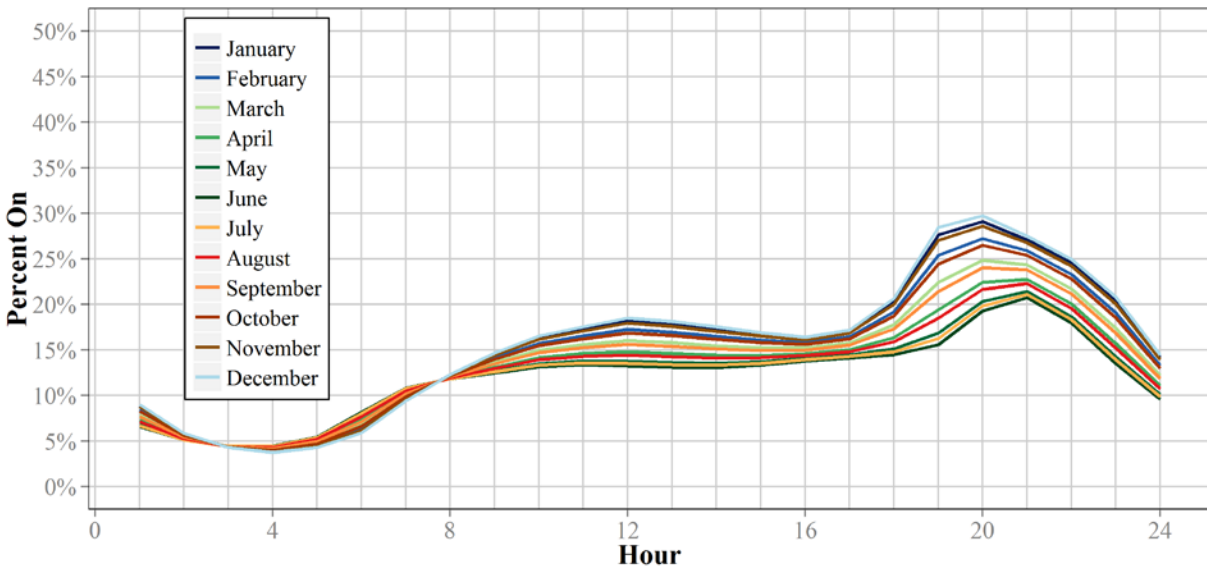


Figure C-10: Connecticut – Summer and Winter Weekend – All Bulbs

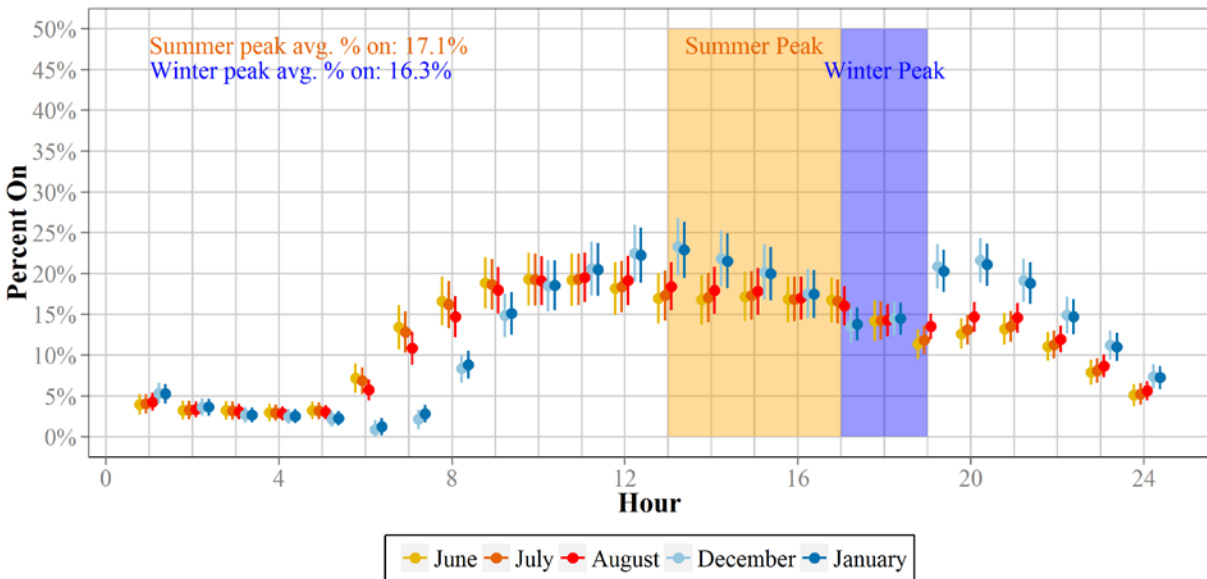


Figure C-11: Massachusetts – Summer and Winter Weekend – All Bulbs

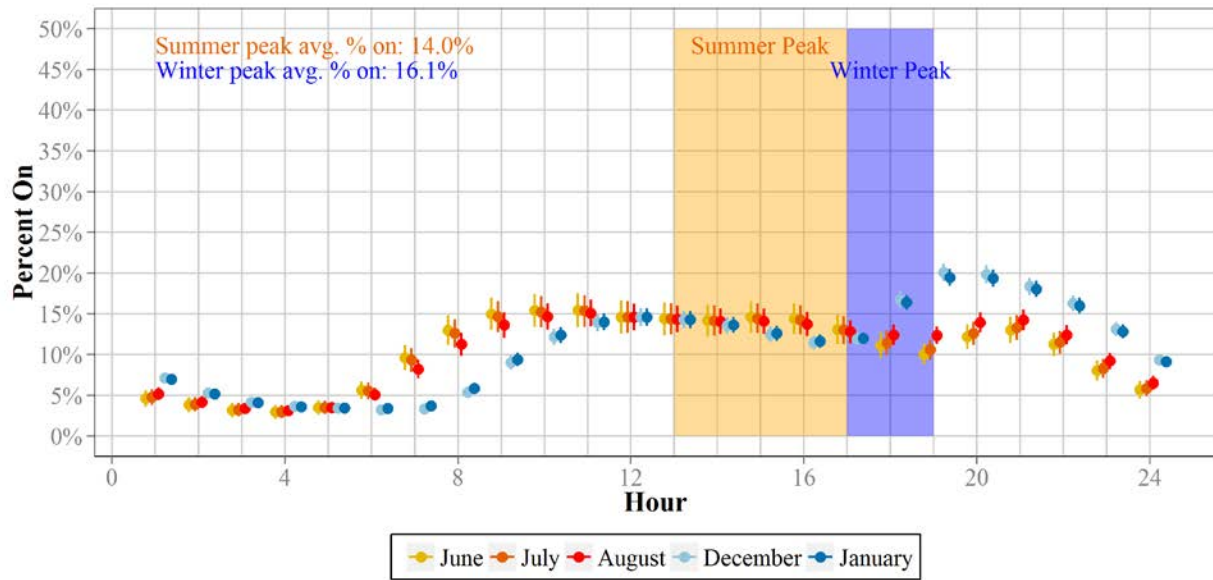


Figure C-12: Rhode Island – Summer and Winter Weekend – All Bulbs

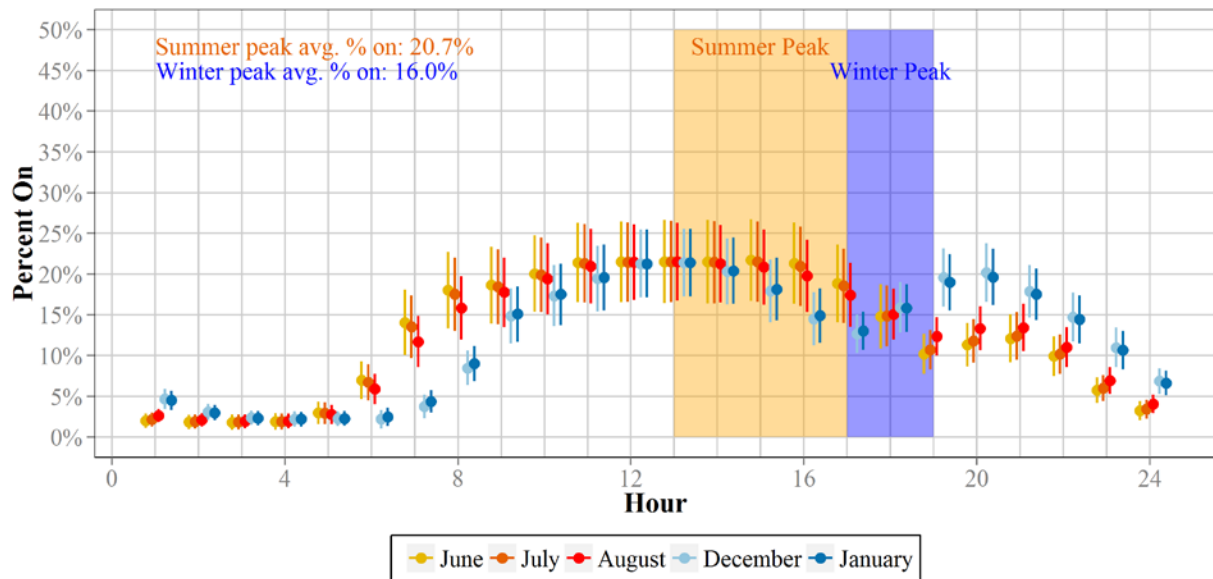


Figure C-13: Upstate New York – Summer and Winter Weekend – All Bulbs

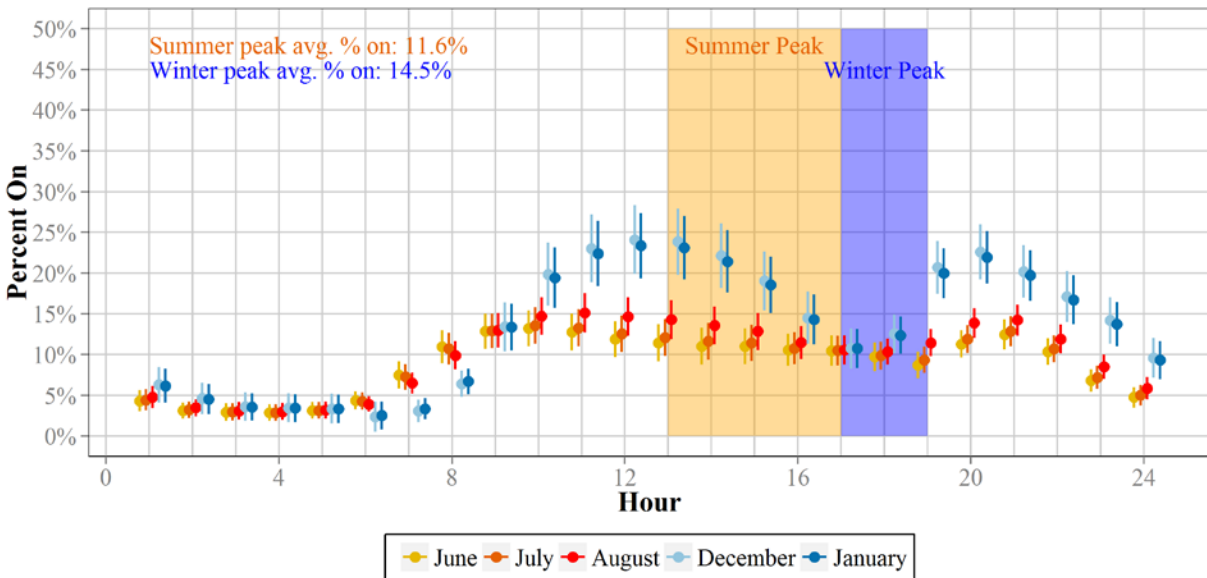


Figure C-14: Overall – Summer and Winter Weekend – All Bulbs

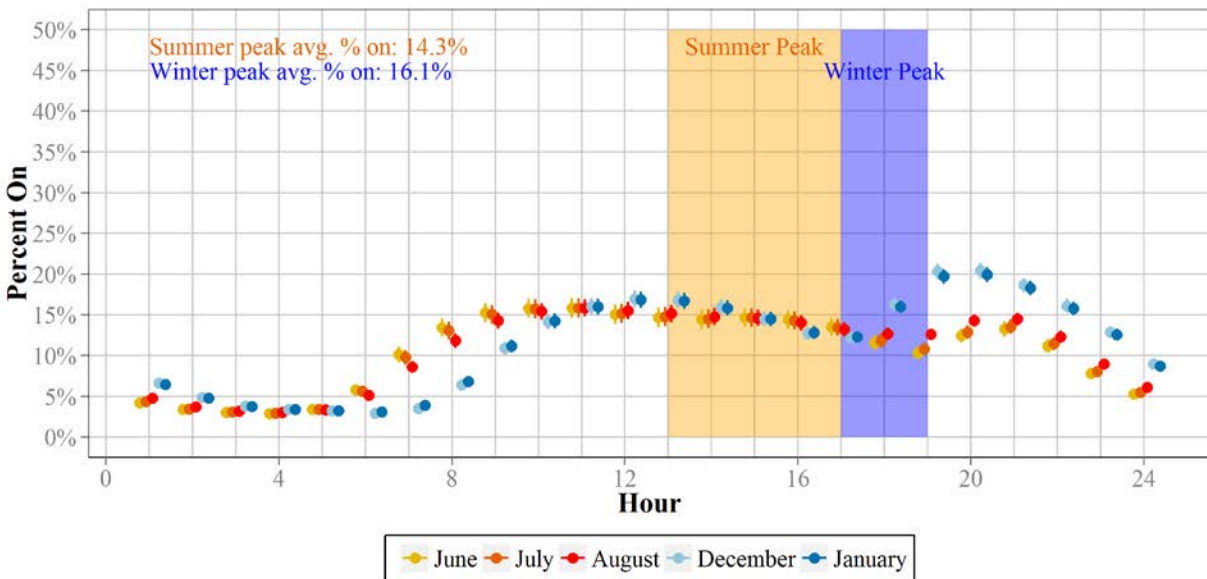


Figure C-15: Manhattan – Summer and Winter Weekend – All Bulbs

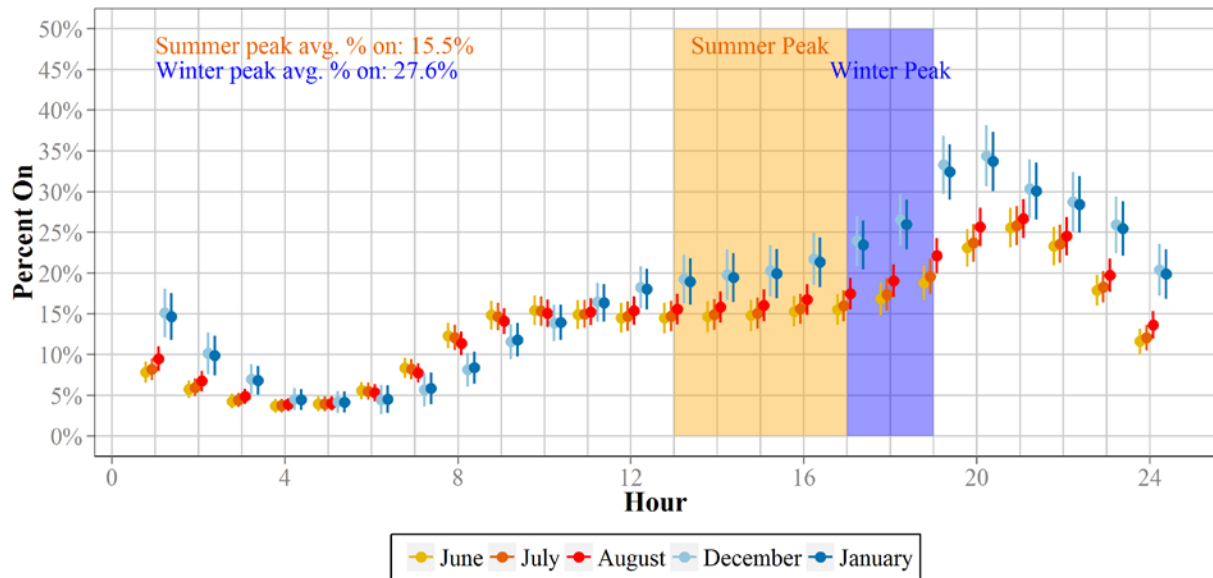


Figure C-16: Downstate New York – Summer and Winter Weekend – All Bulbs

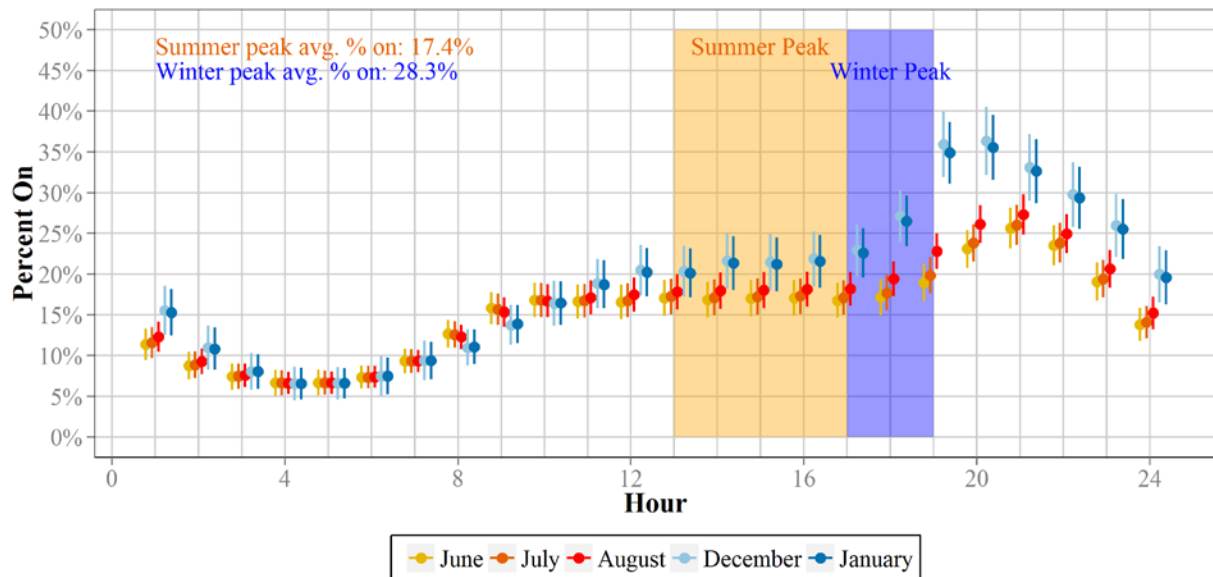


Figure C-17: NYSERDA – Summer and Winter Weekend – All Bulbs

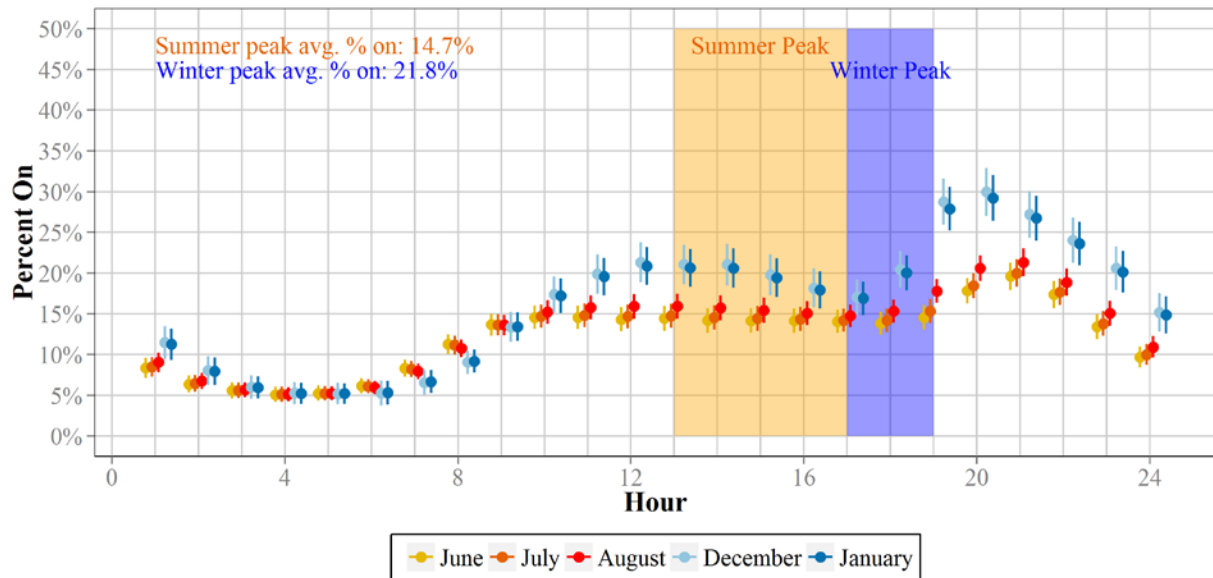


Figure C-18: Connecticut – Summer and Winter Weekday by Income – All Bulbs

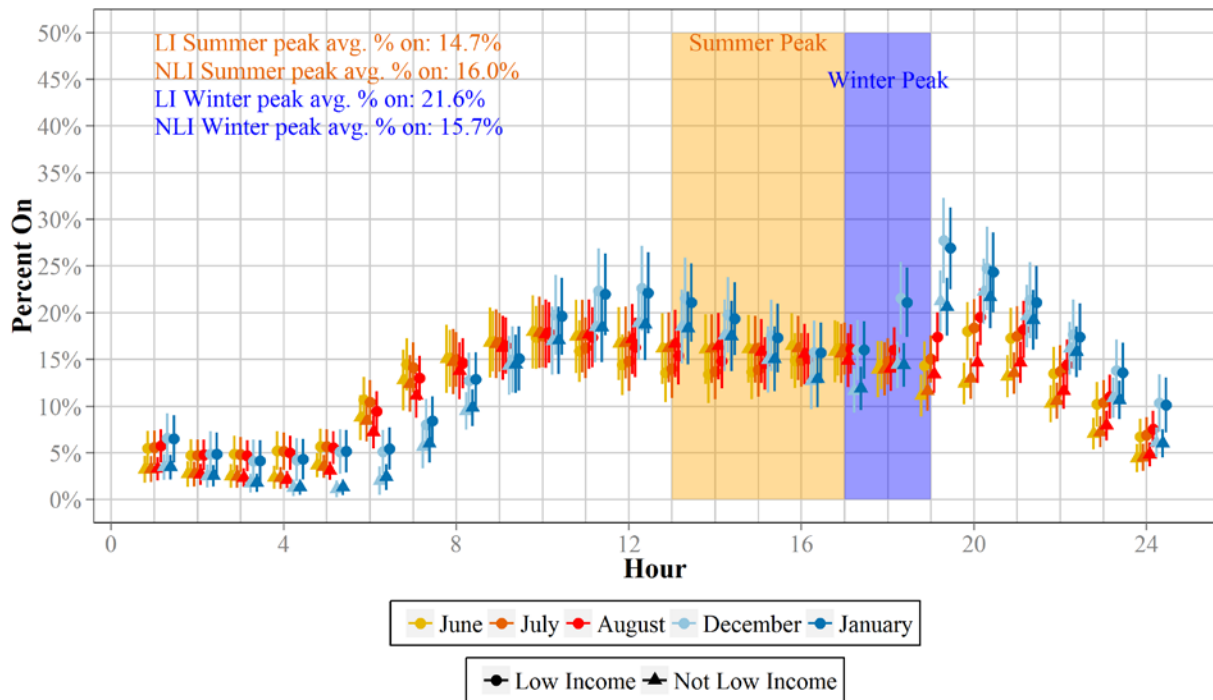


Figure C-19: Massachusetts – Summer and Winter Weekday by Income – All Bulbs

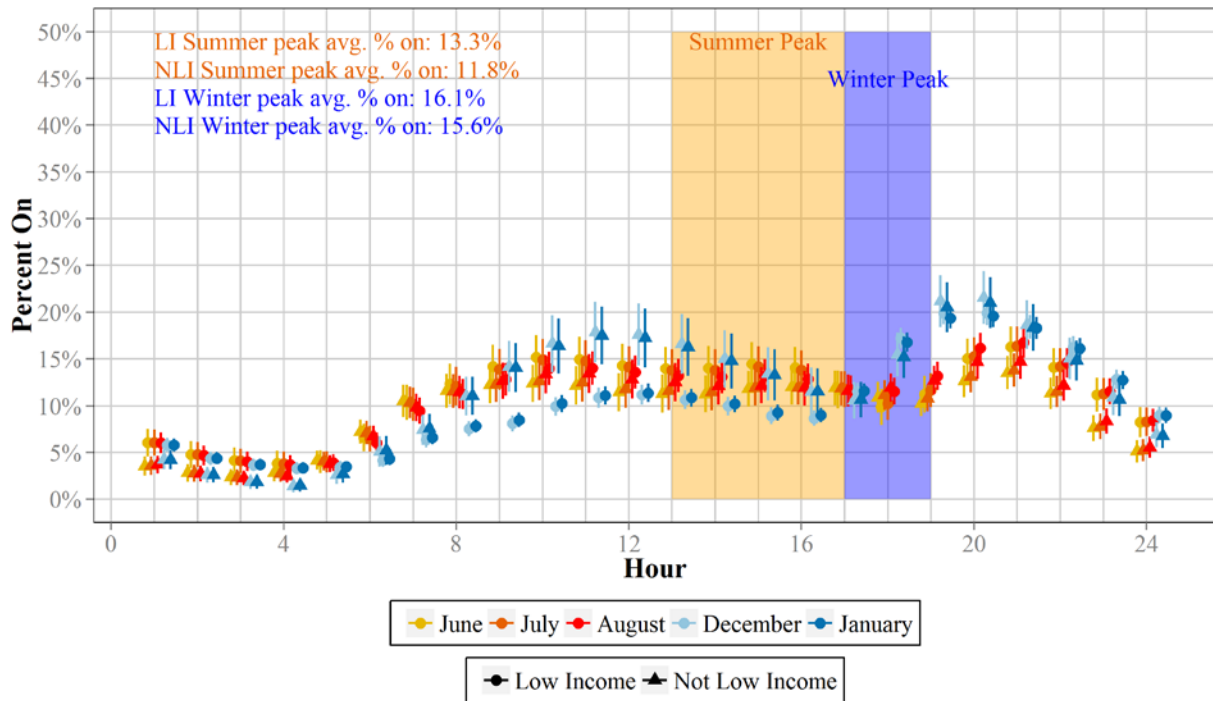


Figure C-20: Rhode Island – Summer and Winter Weekday by Income – All Bulbs

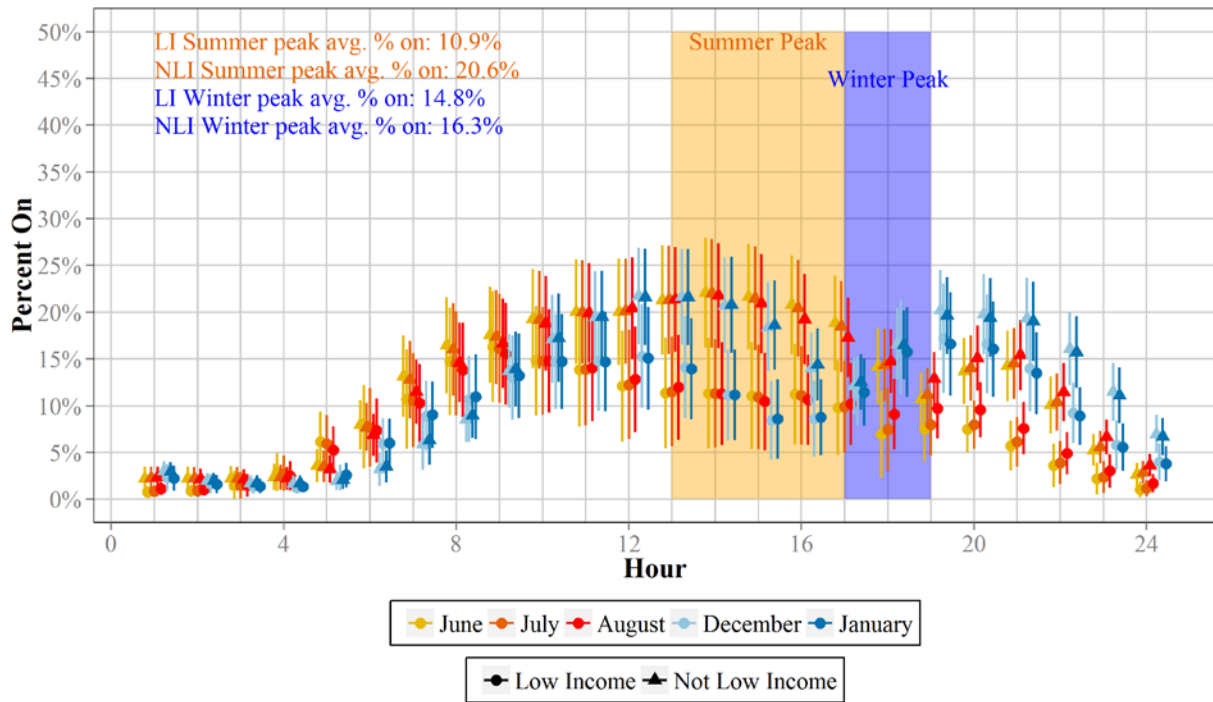


Figure C-21: Upstate New York – Summer and Winter Weekday by Income – All Bulbs

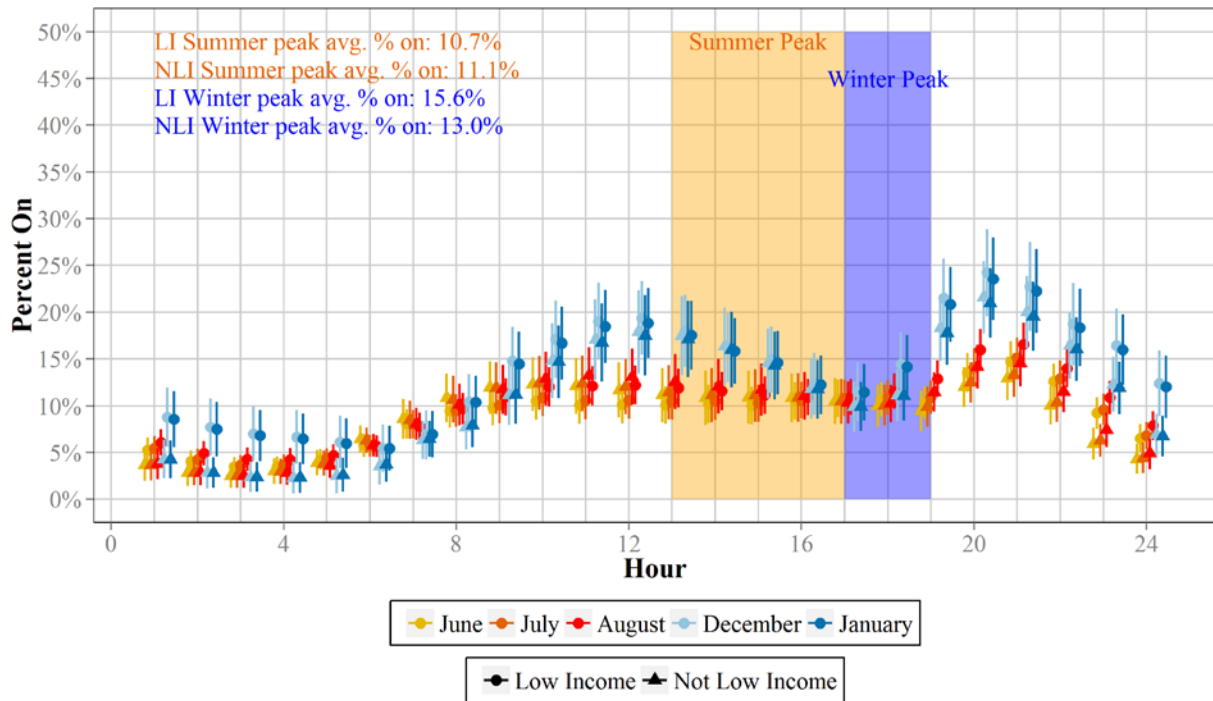


Figure C-22: Overall – Summer and Winter Weekday by Income – All Bulbs

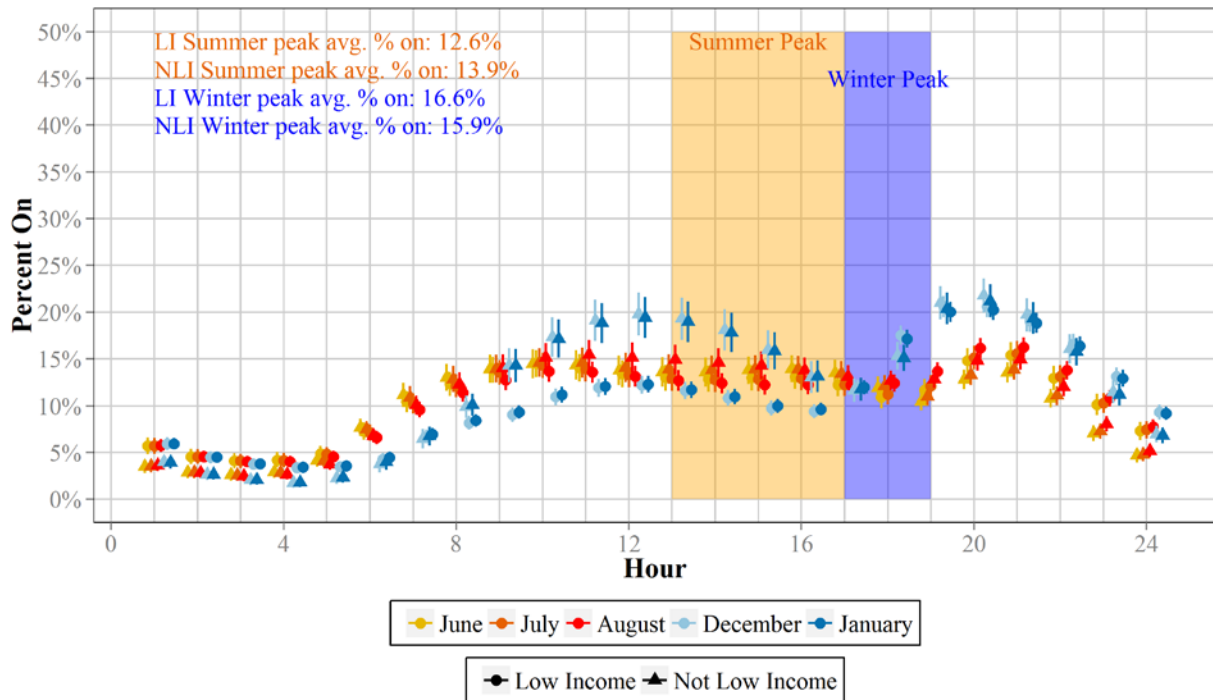


Figure C-23: Manhattan – Summer and Winter Weekday by Income – All Bulbs

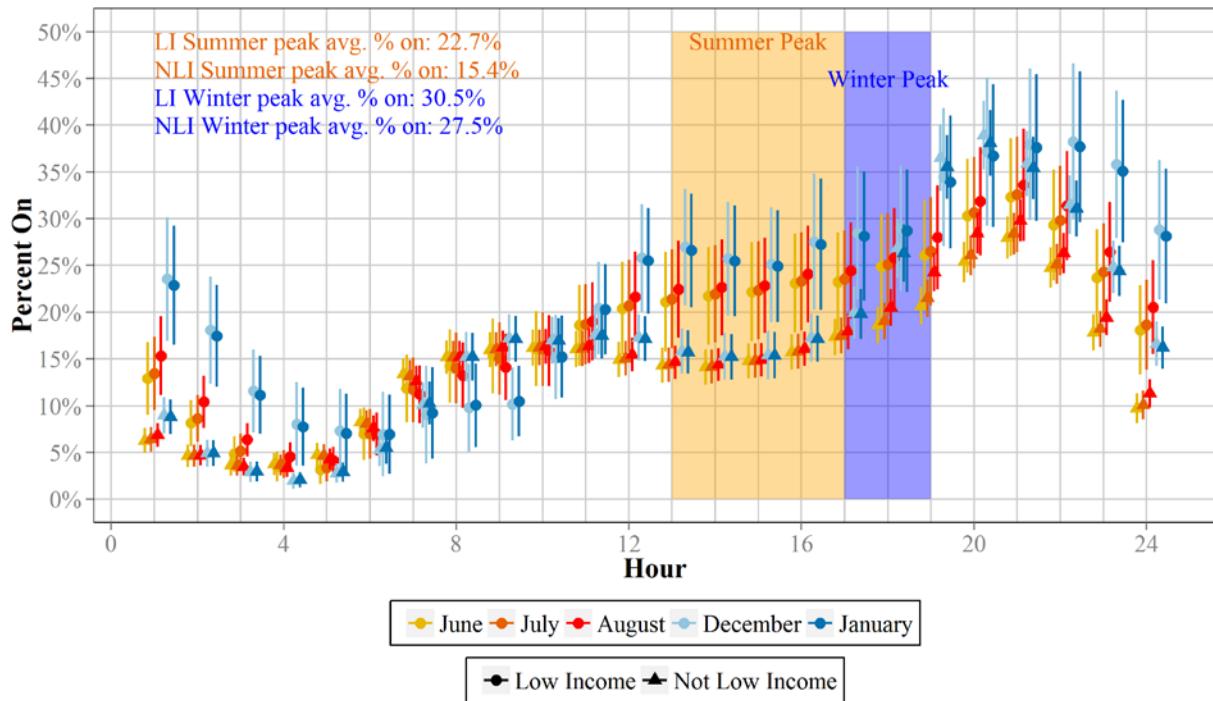


Figure C-24: Downstate New York – Summer and Winter Weekday by Income – All Bulbs

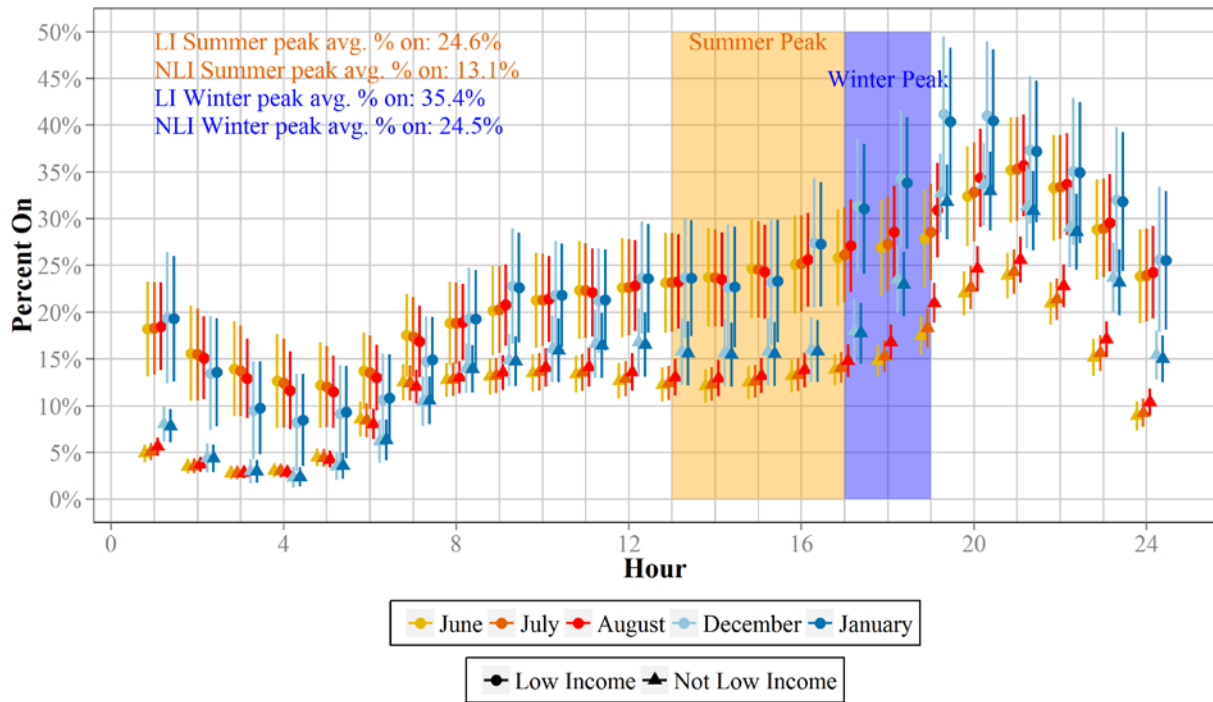


Figure C-25: NYSEERDA – Summer and Winter Weekday by Income – All Bulbs

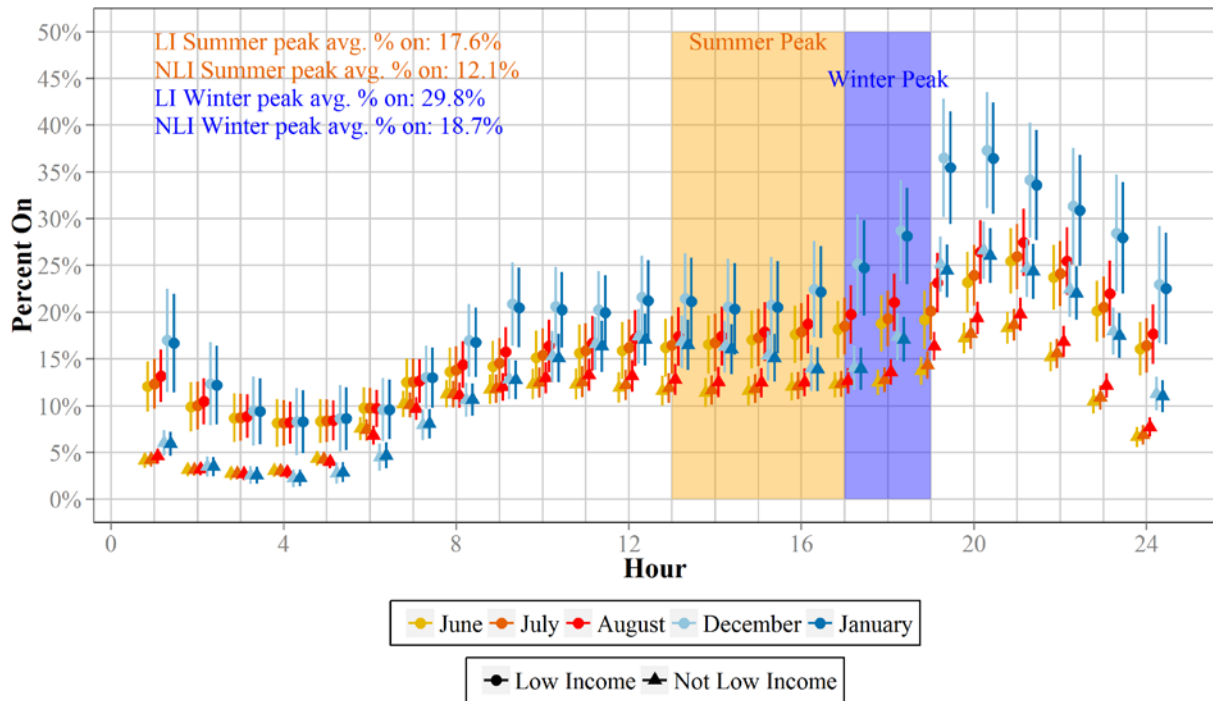


Figure C-26: Connecticut – Summer and Winter Weekday by Housing Type – All Bulbs

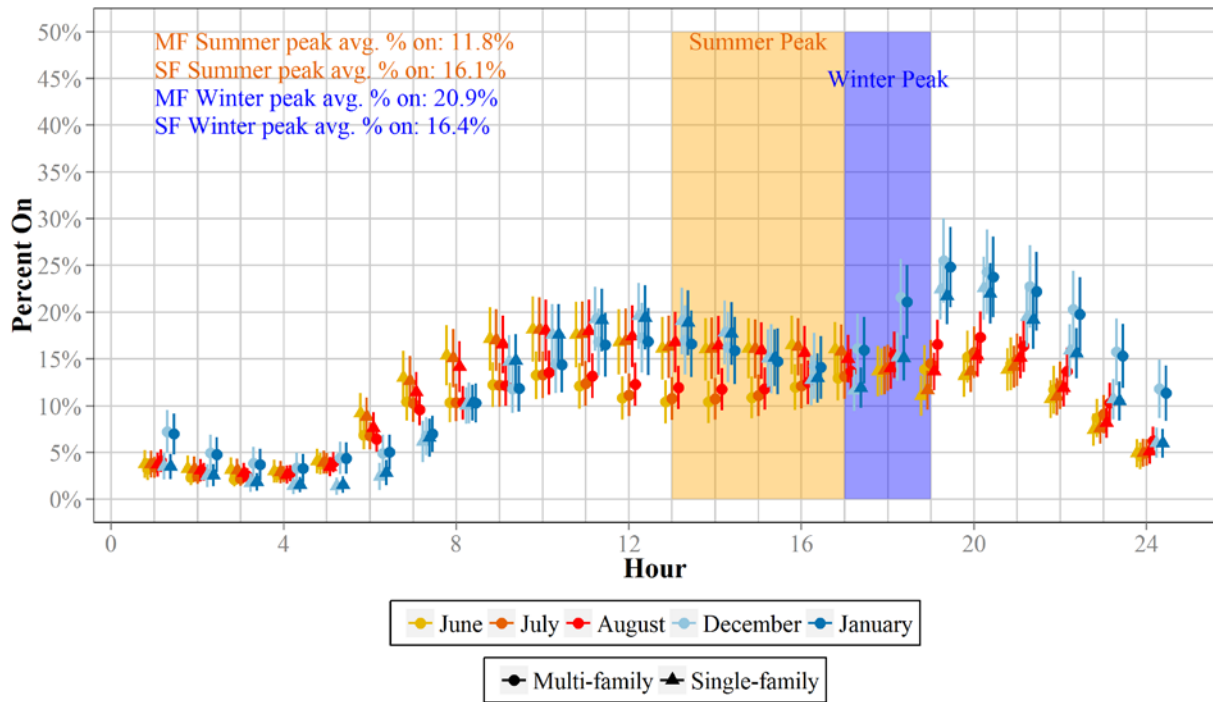


Figure C-27: Massachusetts – Summer and Winter Weekday by Housing Type – All Bulbs

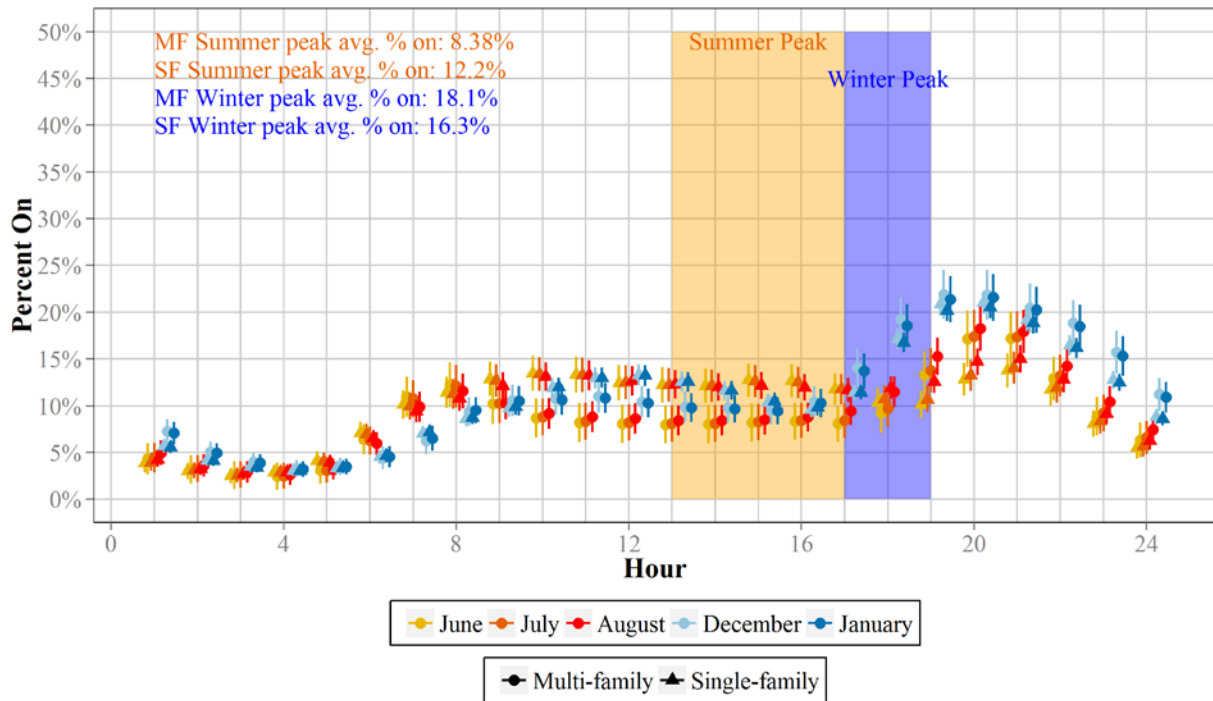


Figure C-28: Rhode Island – Summer and Winter Weekday by Housing Type – All Bulbs

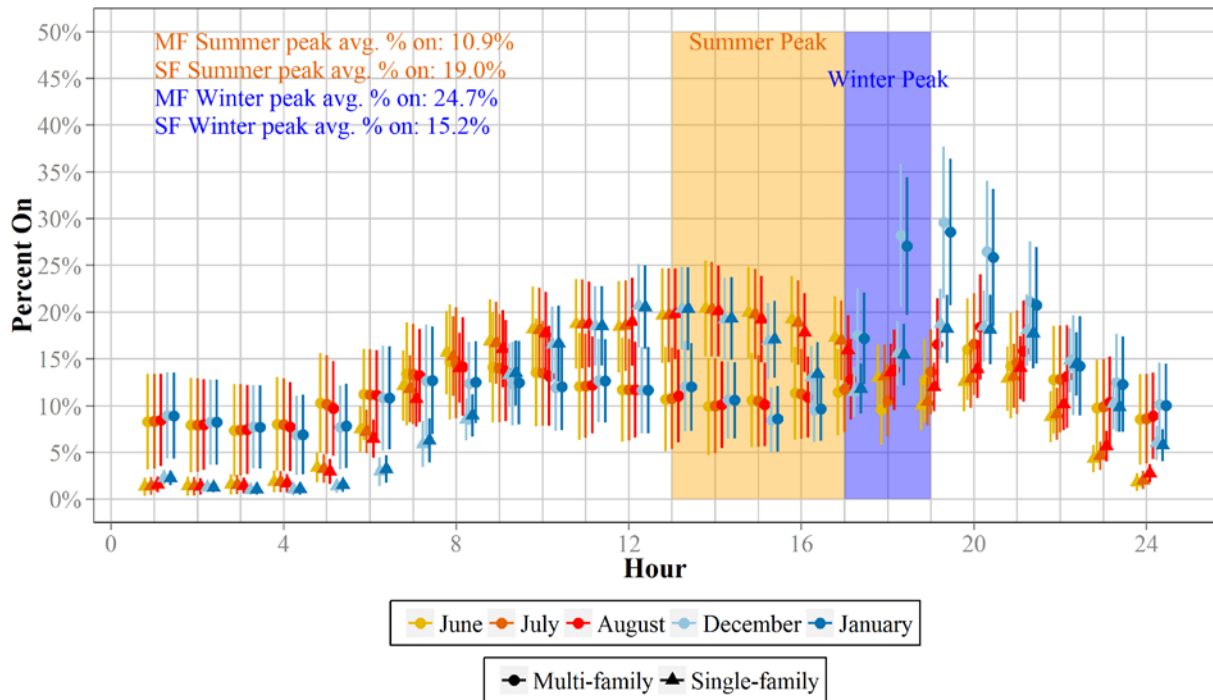


Figure C-29: Upstate New York – Summer and Winter Weekday by Housing Type – All Bulbs

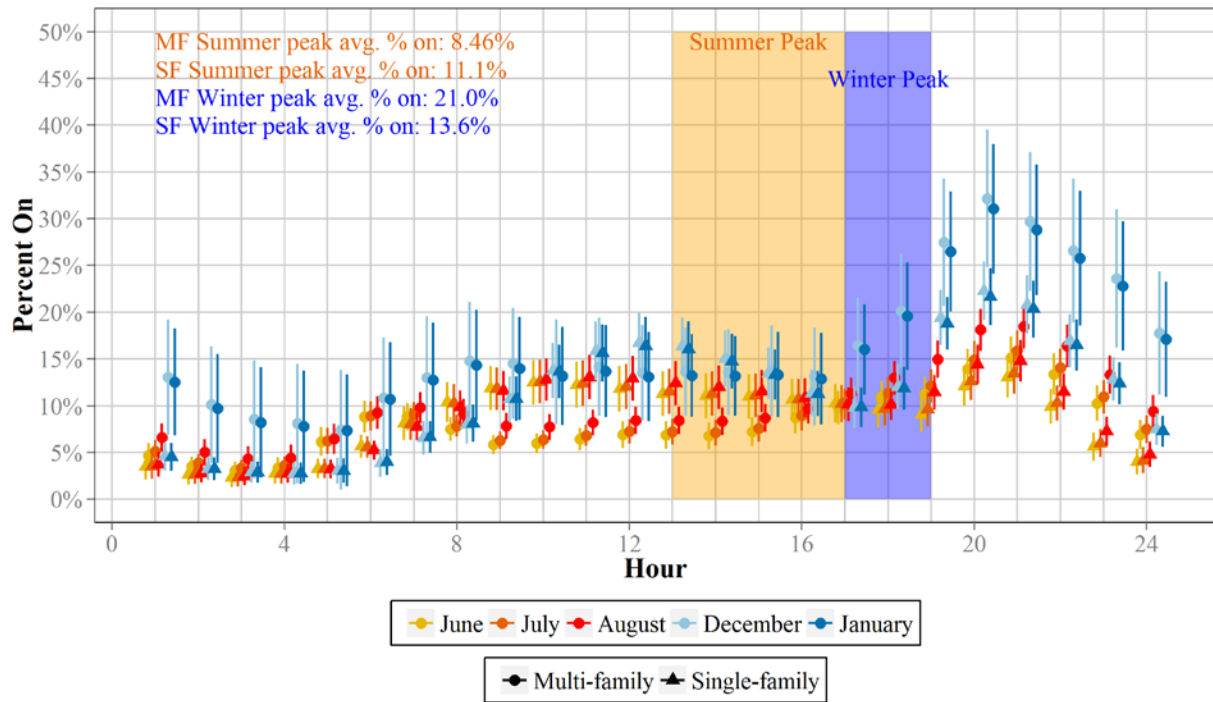


Figure C-30: Overall – Summer and Winter Weekday by Housing Type – All Bulbs

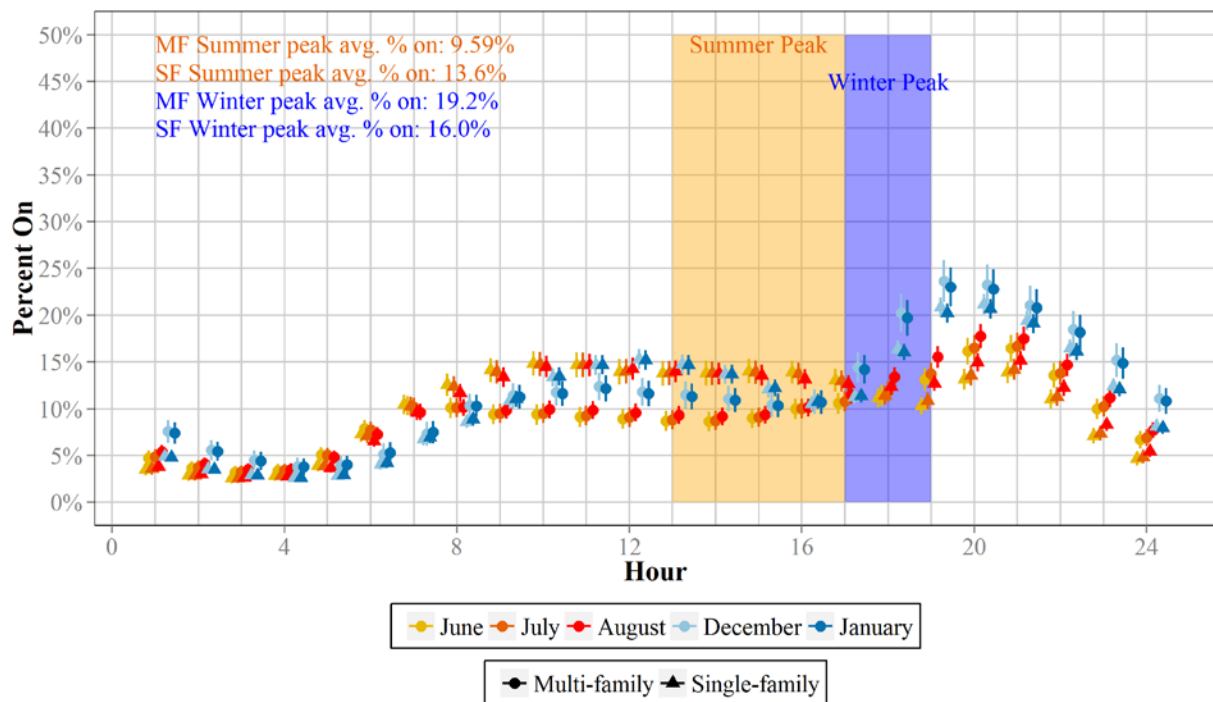


Figure C-31: Downstate New York – Summer and Winter Weekday by Housing Type – All Bulbs

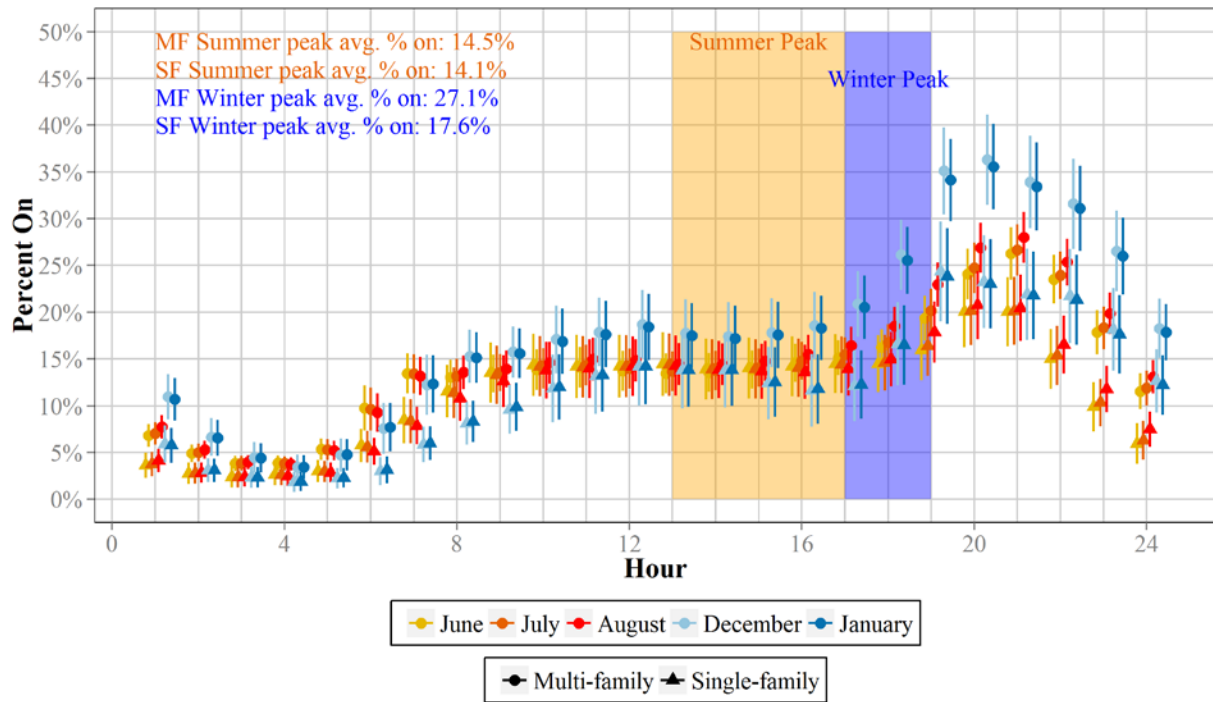


Figure C-32: NYSEERDA – Summer and Winter Weekday by Housing Type – All Bulbs

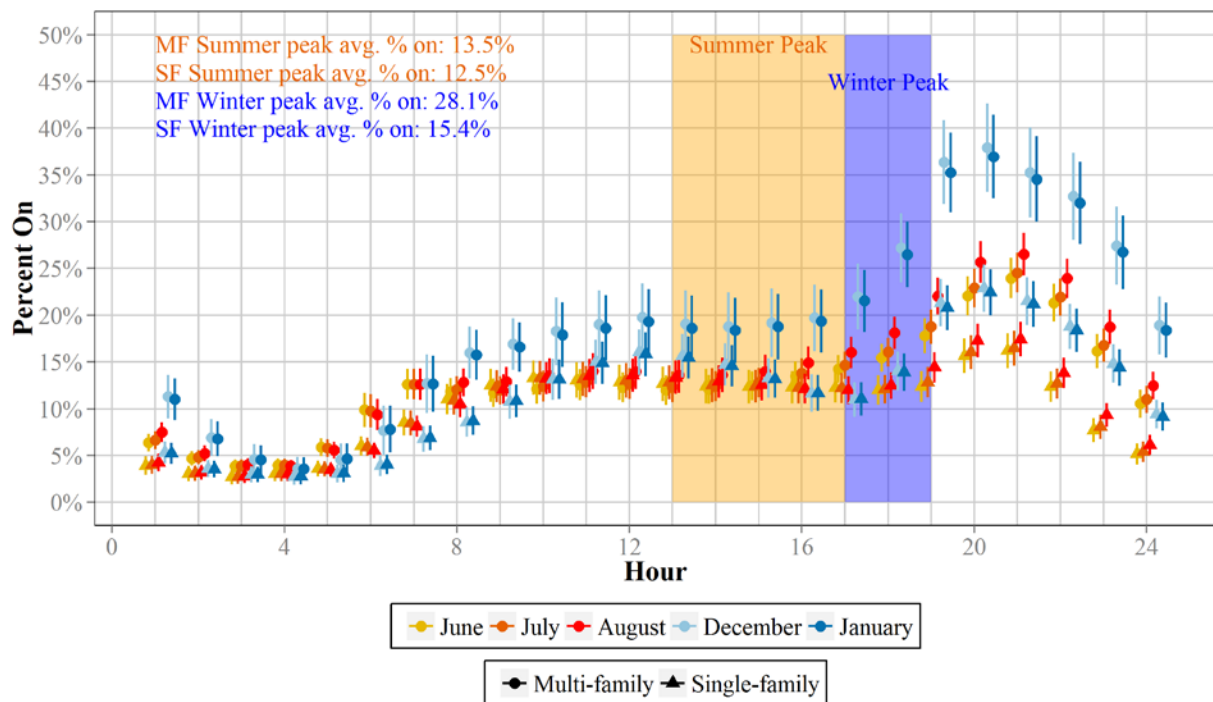


Figure C-33: Connecticut – Summer and Winter Weekday by Bulb Type

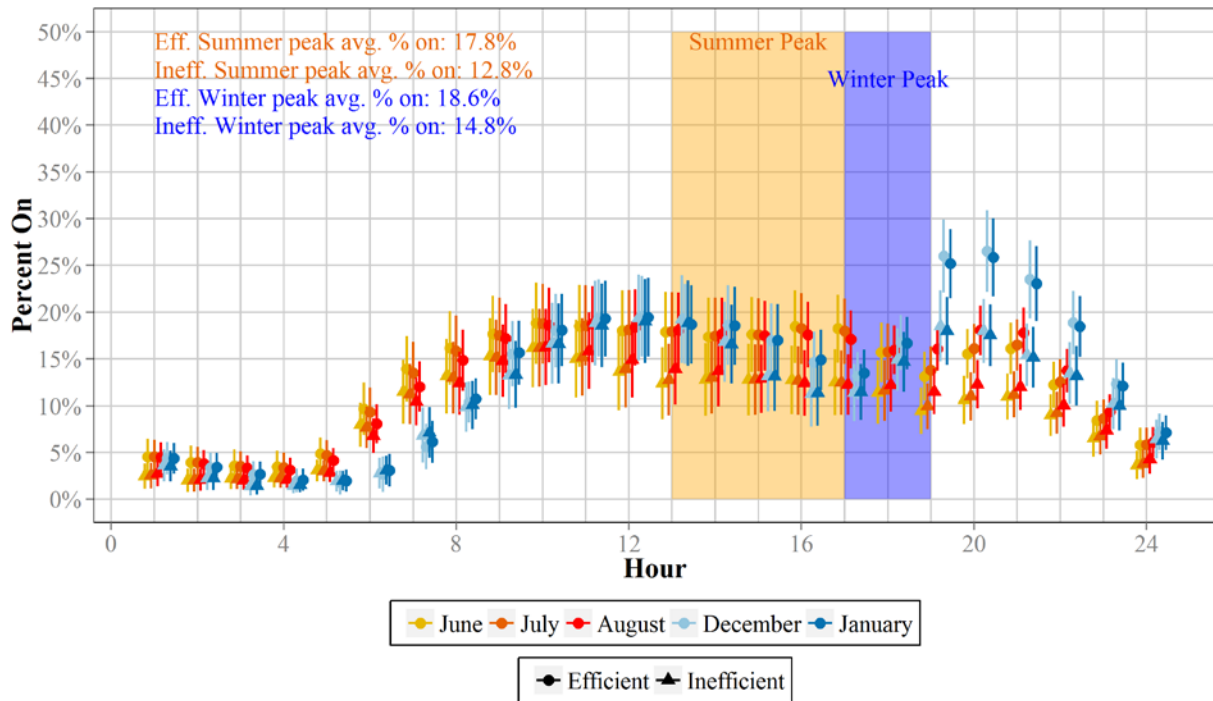


Figure C-34: Massachusetts – Summer and Winter Weekday by Bulb Type

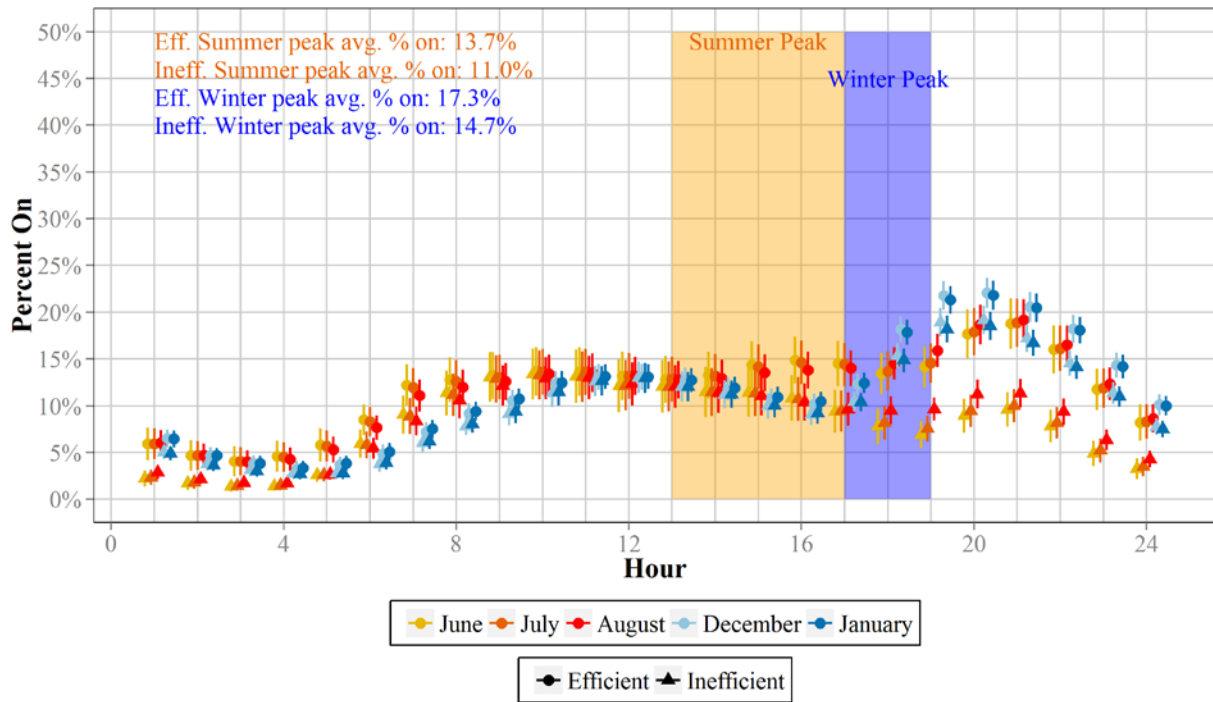


Figure C-35: Rhode Island – Summer and Winter Weekday by Bulb Type

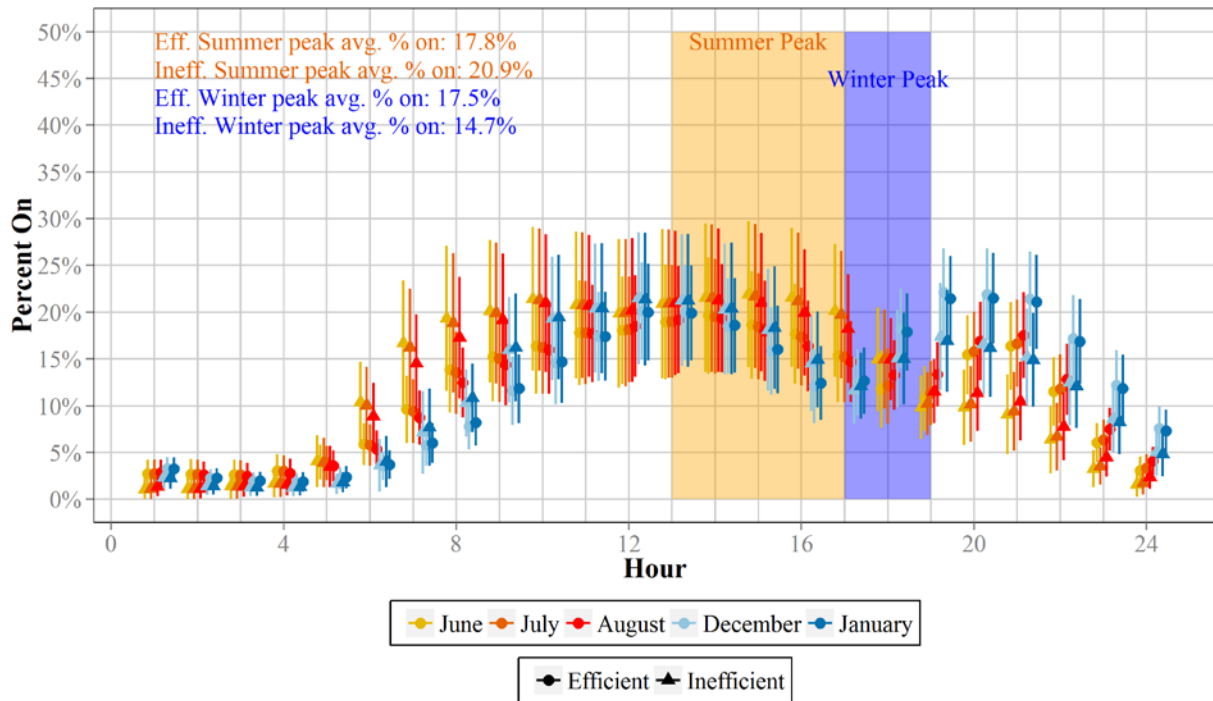


Figure C-36: Upstate New York – Summer and Winter Weekday by Bulb Type

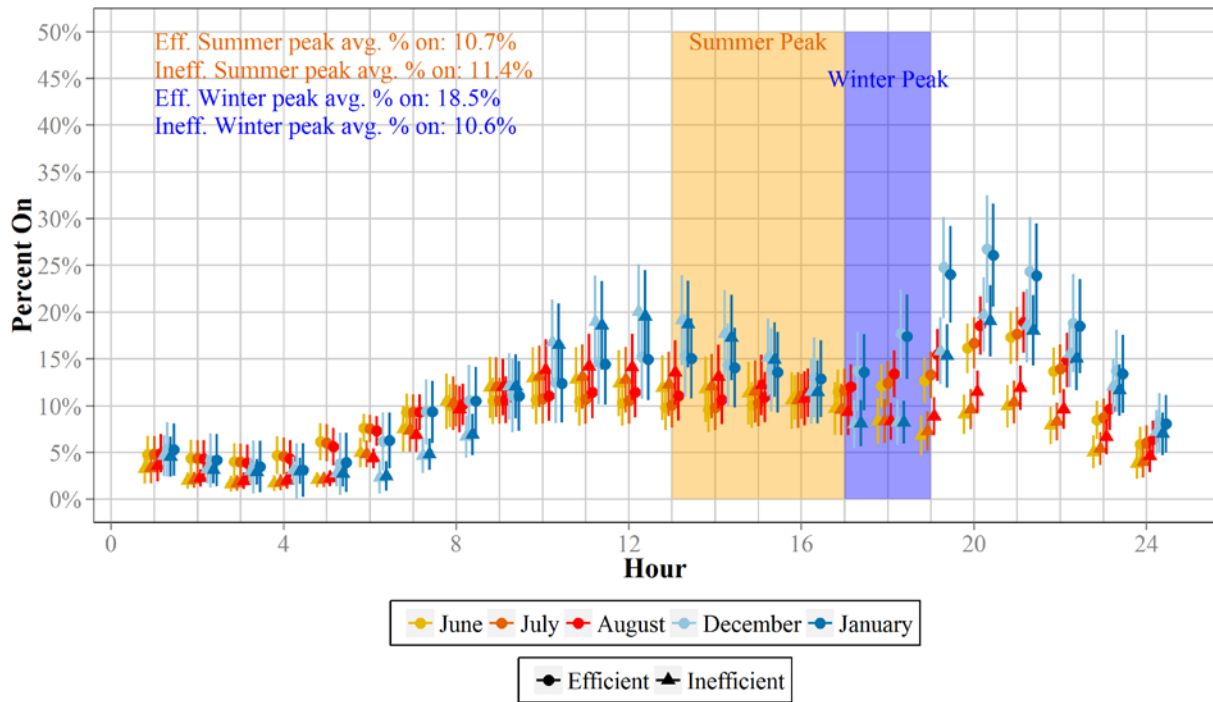


Figure C-37: Overall – Summer and Winter Weekday by Bulb Type

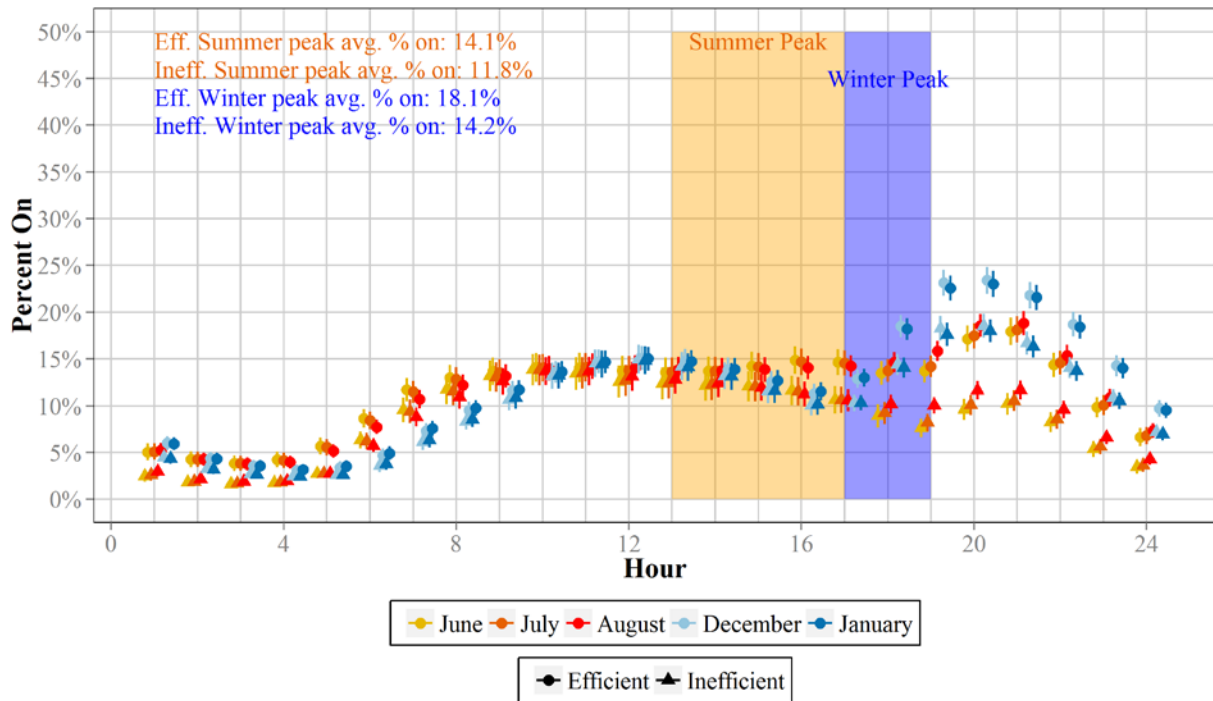


Figure C-38: Manhattan– Summer and Winter Weekday by Bulb Type

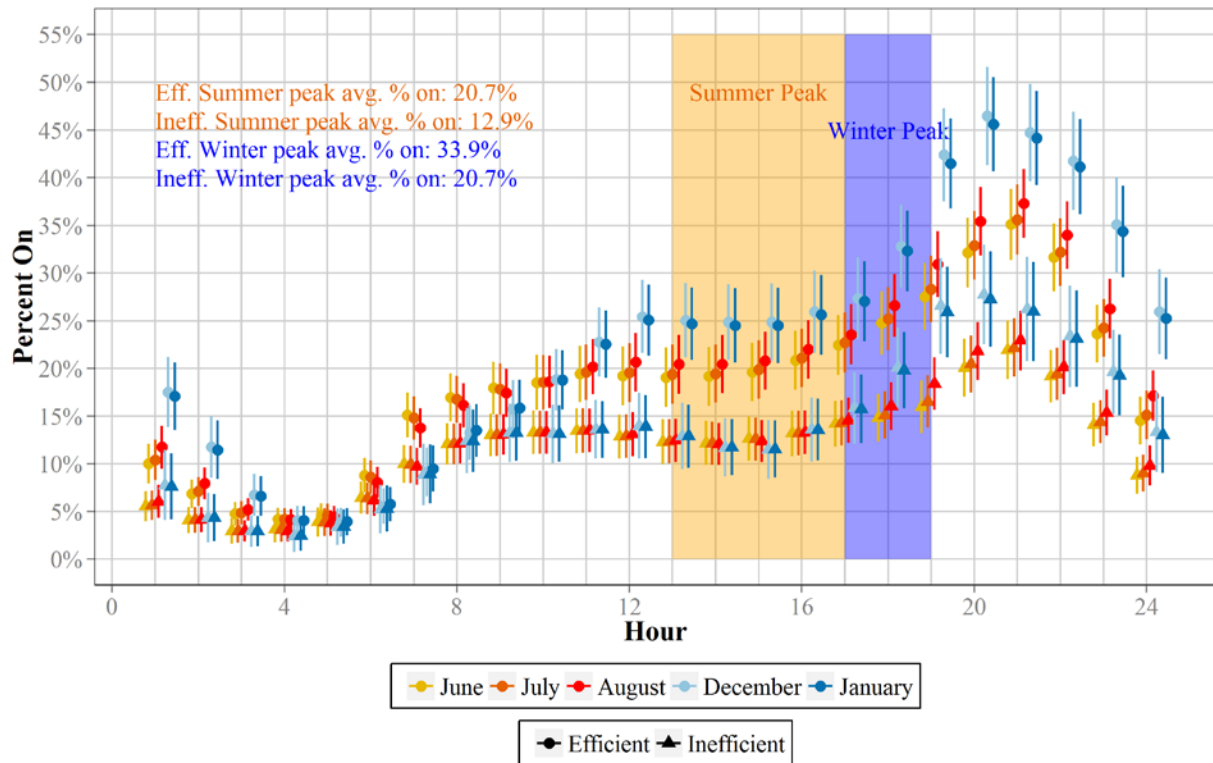


Figure C-39: Downstate New York – Summer and Winter Weekday by Bulb Type

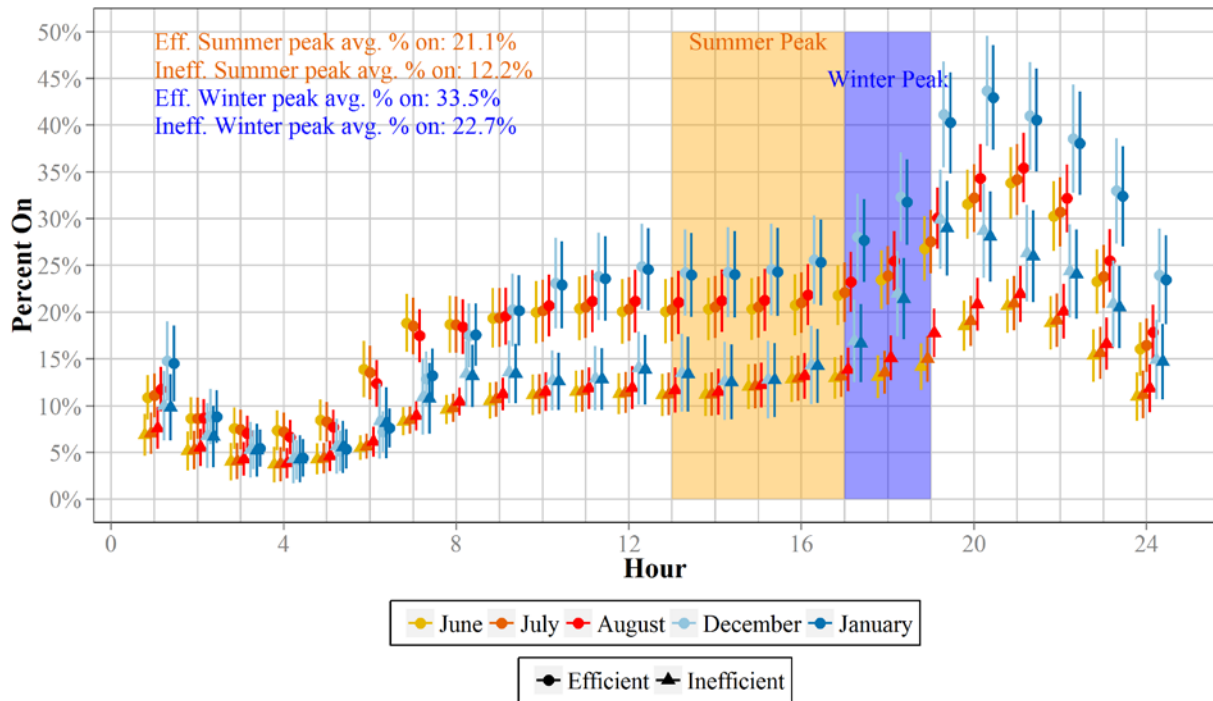
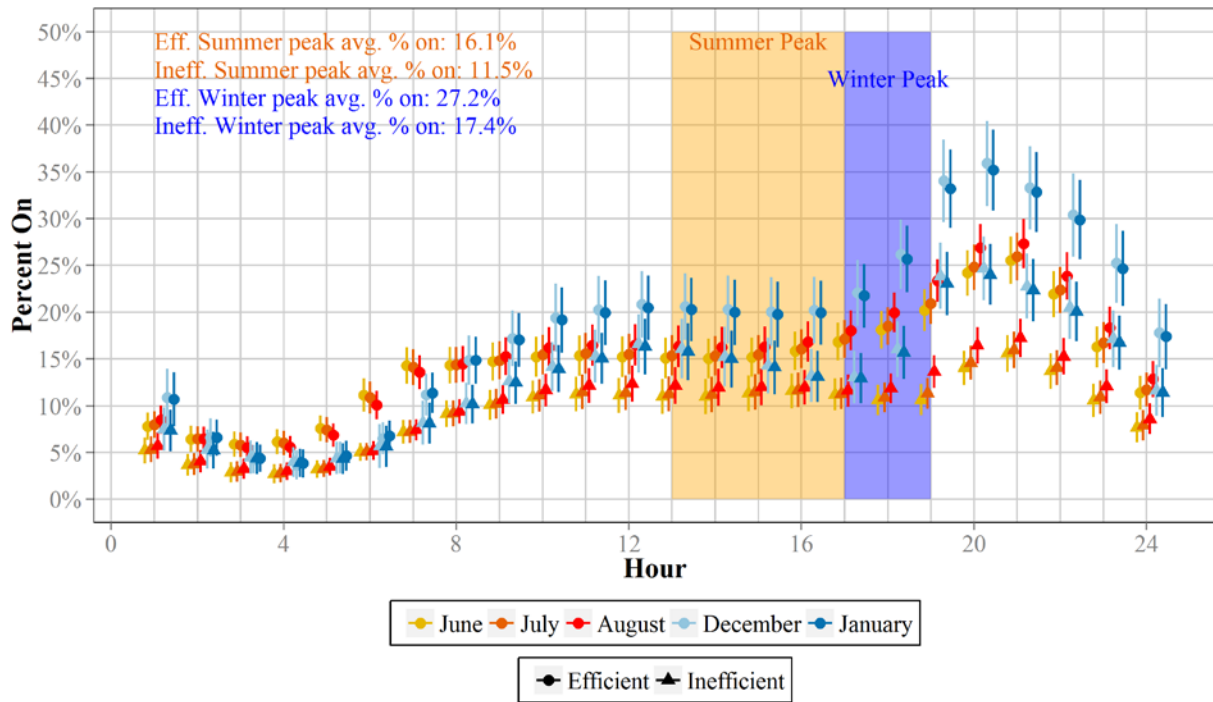


Figure C-40: NYSERDA – Summer and Winter Weekday by Bulb Type



Appendix D Detailed Premise and Room Weights by Area

Table D-1: Northeast Premise Weights

Base Type	Population	Sample Size	Weight
Northeast Premise Total	10,208,049	737	
Single-Family Low Income	2,097,625	226	0.67
Single-Family Non-low Income	5,111,073	180	2.05
Multifamily Low Income	1,224,576	118	0.75
Multifamily Non-low Income	1,129,409	97	0.84
High-Rise Low Income	189,074	23	0.59
High-Rise Non-low Income	456,292	93	0.35

Table D-2: NYSEDA Premise Weights

Base Type	Population	Sample Size	Weight
Northeast Premise Total	6,792,399	737	
Single Family Low Income	1,089,242	226	0.52
Single Family Non-low Income	2,703,806	180	1.63
Multifamily Low Income	739,966	106	0.76
Multifamily Non-low Income	635,127	85	0.81
High Rise Not Manhattan Low Income	484,610	12	4.38
High Rise Not Manhattan Non-low Income	494,282	12	4.47
High Rise Manhattan Low Income	189,074	23	0.89
High Rise Manhattan Non-low Income	456,292	93	0.53

Table D-3: Upstate NY Premise Weights

Base Type	Population	Sample Size	Weight
Northeast Premise Total	2,745,346	621	
Single Family Low Income	680,814	226	0.68
Single Family Non-low Income	1,699,448	180	2.14
Multifamily Low Income	207,468	118	0.40
Multifamily Non-low Income	157,616	97	0.37

Table D-4: Downstate NY Premise Weights

Base Type	Population	Sample Size	Weight
Northeast Premise Total	3,247,717	761	
Single Family Low Income	408,428	226	0.42
Single Family Non-low Income	1,004,358	180	1.31
Multifamily Low Income	88,003	118	0.17
Multifamily Non-low Income	122,670	97	0.30
High Rise Not Manhattan Low Income	484,610	12	9.46
High Rise Not Manhattan Non-low Income	494,282	12	9.65
High Rise Manhattan Low Income	189,074	23	1.93
High Rise Manhattan Non-low Income	456,292	93	1.15

Table D-5: Manhattan Premise Weights

Base Type	Population	Sample Size	Weight
Northeast Premise Total	645,366	116	
Multifamily Low Income	189,074	23	1.48
Multifamily Non-low Income	456,292	93	0.88

Table D-6: Connecticut Premise Weights

Base Type	Population	Sample Size	Weight
Northeast Premise Total	1,335,839	621	
Single Family Low Income	317,267	226	0.65
Single Family Non-low Income	792,967	180	2.05
Multifamily Low Income	123,738	118	0.49
Multifamily Non-low Income	101,867	97	0.49

Table D-7: Rhode Island Premise Weights

Base Type	Population	Sample Size	Weight
Northeast Premise Total	400,338	621	
Single Family Low Income	100,159	226	0.69
Single Family Non-low Income	234,625	180	2.02
Multifamily Low Income	40,377	118	0.53
Multifamily Non-low Income	25,177	97	0.40

Table D-8: Massachusetts Premise Weights

Base Type	Population	Sample Size	Weight
Northeast Premise Total	2,478,809	621	
Single Family Low Income	590,957	226	0.66
Single Family Non-low Income	1,379,675	180	1.92
Multifamily Low Income	280,380	118	0.60
Multifamily Non-low Income	227,797	97	0.59

Table D-9: Northeast Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	3,446	36,865	700	4,642	0.6199
Bathroom Efficient Bulb	1,304	17,345	333	2,427	0.5479
Bathroom Inefficient Bulb	2,142	19,490	367	2,215	0.6633
Bedroom	4,929	36,865	913	4,642	0.6798
Bedroom Efficient	1,980	17,345	436	2,427	0.6354
Bedroom Inefficient	2,949	19,490	477	2,215	0.7026
Dining Room	1,788	36,865	401	4,642	0.5615
Dining Room Efficient	463	17,345	174	2,427	0.3723
Dining Room Inefficient	1,325	19,490	227	2,215	0.6634
Exterior	1,838	36,865	184	4,642	1.2578
Exterior Efficient	490	17,345	76	2,427	0.9021
Exterior Inefficient	1,348	19,490	108	2,215	1.4185
Kitchen	3,313	36,865	751	4,642	0.5555
Kitchen Efficient	1,803	17,345	500	2,427	0.5046
Kitchen Inefficient	1,510	19,490	251	2,215	0.6837
Living Room	3,294	36,865	742	4,642	0.5590
Living Room Efficient	1,329	17,345	376	2,427	0.4946
Living Room Inefficient	1,965	19,490	366	2,215	0.6102
Other	8,092	36,865	951	4,642	1.0714
Other Efficient	4,018	17,345	532	2,427	1.0568
Other Inefficient	4,074	19,490	419	2,215	1.1050
High Rise Bathroom	636	34,202	700	4,642	0.1233
High Rise Bathroom Efficient	153	13,579	333	2,427	0.0821
High Rise Bathroom Inefficient	483	20,593	367	2,215	0.1416
High Rise Bedroom	745	34,202	913	4,642	0.1107
High Rise Bedroom Efficient	219	13,579	436	2,427	0.0898

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
High Rise Bedroom Inefficient	526	20,593	477	2,215	0.1186
High Rise Dining Room	335	34,202	401	4,642	0.1134
High Rise Dining Room Efficient	67	13,579	174	2,427	0.0688
High Rise Dining Room Inefficient	268	20,593	227	2,215	0.1270
High Rise Exterior	51	34,202	184	4,642	0.0376
High Rise Exterior Efficient	10	13,579	76	2,427	0.0235
High Rise Exterior Inefficient	41	20,593	108	2,215	0.0408
High Rise Kitchen	528	34,202	751	4,642	0.0954
High Rise Kitchen Efficient	206	13,579	500	2,427	0.0736
High Rise Kitchen Inefficient	322	20,593	251	2,215	0.1380
High Rise Living Room	592	34,202	742	4,642	0.1083
High Rise Living Room Efficient	206	13,579	376	2,427	0.0979
High Rise Living Room Inefficient	386	20,593	366	2,215	0.1134
High Rise Other	849	34,202	951	4,642	0.1212
High Rise Other Efficient	235	13,579	532	2,427	0.0790
High Rise Other Inefficient	614	20,593	419	2,215	0.1576

Table D-10: NYSERDA Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	744	10,131	700	4,642	0.4870
Bathroom Efficient Bulb	284	7,383	333	2,427	0.2804
Bathroom Inefficient Bulb	460	5,411	367	2,215	0.5131
Bedroom	982	10,131	913	4,642	0.4928
Bedroom Efficient	376	3,617	436	2,427	0.5787
Bedroom Inefficient	606	6,514	477	2,215	0.4320
Dining Room	562	10,131	401	4,642	0.6422
Dining Room Efficient	156	3,617	174	2,427	0.6016
Dining Room Inefficient	406	6,514	227	2,215	0.6082
Exterior	425	10,131	184	4,642	1.0583
Exterior Efficient	81	3,617	76	2,427	0.7151

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Exterior Inefficient	344	6,514	108	2,215	1.0831
Kitchen	763	10,131	751	4,642	0.4655
Kitchen Efficient	345	3,617	500	2,427	0.4630
Kitchen Inefficient	418	6,514	251	2,215	0.5663
Living Room	838	10,131	742	4,642	0.5175
Living Room Efficient	283	3,617	376	2,427	0.5050
Living Room Inefficient	555	6,514	366	2,215	0.5156
Other	2,081	10,131	951	4,642	1.0026
Other Efficient	996	3,617	532	2,427	1.2562
Other Inefficient	1,085	6,514	419	2,215	0.8805
High Rise Bathroom	636	10,131	700	4,642	0.4163
High Rise Bathroom Efficient	153	3,617	333	2,427	0.3083
High Rise Bathroom Inefficient	483	6,514	367	2,215	0.4475
High Rise Bedroom	745	10,131	913	4,642	0.3739
High Rise Bedroom Efficient	219	3,617	436	2,427	0.3370
High Rise Bedroom Inefficient	526	6,514	477	2,215	0.3750
High Rise Dining Room	335	10,131	401	4,642	0.3828
High Rise Dining Room Efficient	67	3,617	174	2,427	0.2584
High Rise Dining Room Inefficient	268	6,514	227	2,215	0.4015
High Rise Exterior	51	10,131	184	4,642	0.1270
High Rise Exterior Efficient	10	3,617	76	2,427	0.0883
High Rise Exterior Inefficient	41	6,514	108	2,215	0.1291
High Rise Kitchen	528	10,131	751	4,642	0.3221
High Rise Kitchen Efficient	206	3,617	500	2,427	0.2765
High Rise Kitchen Inefficient	322	6,514	251	2,215	0.4362
High Rise Living Room	592	10,131	742	4,642	0.3656
High Rise Living Room Efficient	206	3,617	376	2,427	0.3676
High Rise Living Room Inefficient	386	6,514	366	2,215	0.3586
High Rise Other	849	10,131	951	4,642	0.4091
High Rise Other Efficient	235	3,617	532	2,427	0.2964
High Rise Other Inefficient	614	6,514	419	2,215	0.4983

Table D-11: Downstate NY Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	341	9,222	700	4,642	0.2452
Bathroom Efficient Bulb	131	5,946	333	2,427	0.1606
Bathroom Inefficient Bulb	210	3,276	367	2,215	0.3869
Bedroom	458	9,222	913	4,642	0.2525
Bedroom Efficient	192	5,946	436	2,427	0.1797
Bedroom Inefficient	266	3,276	477	2,215	0.3770
Dining Room	265	9,222	401	4,642	0.3326
Dining Room Efficient	80	5,946	174	2,427	0.1877
Dining Room Inefficient	185	3,276	227	2,215	0.5510
Exterior	130	9,222	184	4,642	0.3556
Exterior Efficient	35	5,946	76	2,427	0.1880
Exterior Inefficient	95	3,276	108	2,215	0.5947
Kitchen	395	9,222	751	4,642	0.2648
Kitchen Efficient	183	5,946	500	2,427	0.1494
Kitchen Inefficient	212	3,276	251	2,215	0.5711
Living Room	413	9,222	742	4,642	0.2802
Living Room Efficient	127	5,946	376	2,427	0.1379
Living Room Inefficient	286	3,276	366	2,215	0.5283
Other	821	9,222	951	4,642	0.4346
Other Efficient	336	5,946	532	2,427	0.2578
Other Inefficient	485	3,276	419	2,215	0.7826
High Rise Bathroom	636	9,222	700	4,642	0.4573
High Rise Bathroom Efficient	153	5,946	333	2,427	0.1875
High Rise Bathroom Inefficient	483	3,276	367	2,215	0.8898
High Rise Bedroom	745	9,222	913	4,642	0.4107
High Rise Bedroom Efficient	219	5,946	436	2,427	0.2050
High Rise Bedroom Inefficient	526	3,276	477	2,215	0.7456
High Rise Dining Room	335	9,222	401	4,642	0.4205
High Rise Dining Room Efficient	67	5,946	174	2,427	0.1572
High Rise Dining Room Inefficient	268	3,276	227	2,215	0.7982
High Rise Exterior	51	9,222	184	4,642	0.1395
High Rise Exterior	10	5,946	76	2,427	0.0537

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Efficient					
High Rise Exterior Inefficient	41	3,276	108	2,215	0.2567
High Rise Kitchen	528	9,222	751	4,642	0.3539
High Rise Kitchen Efficient	206	5,946	500	2,427	0.1682
High Rise Kitchen Inefficient	322	3,276	251	2,215	0.8674
High Rise Living Room	592	9,222	742	4,642	0.4016
High Rise Living Room Efficient	206	5,946	376	2,427	0.2236
High Rise Living Room Inefficient	386	3,276	366	2,215	0.7131
High Rise Other	849	9,222	951	4,642	0.4494
High Rise Other Efficient	235	5,946	532	2,427	0.1803
High Rise Other Inefficient	614	3,276	419	2,215	0.9908

Table D-12: Upstate NY Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	403	3,572	581	4,098	0.7958
Bathroom Efficient Bulb	153	1,437	291	2,166	0.7925
Bathroom Inefficient Bulb	250	2,135	290	1,932	0.7801
Bedroom	524	3,572	805	4,098	0.7468
Bedroom Efficient	184	1,437	388	2,166	0.7148
Bedroom Inefficient	340	2,135	417	1,932	0.7378
Dining Room	297	3,572	350	4,098	0.9735
Dining Room Efficient	76	1,437	153	2,166	0.7487
Dining Room Inefficient	221	2,135	197	1,932	1.0152
Exterior	295	3,572	183	4,098	1.8494
Exterior Efficient	46	1,437	76	2,166	0.9123
Exterior Inefficient	249	2,135	107	1,932	2.1058
Kitchen	368	3,572	647	4,098	0.6525
Kitchen Efficient	162	1,437	429	2,166	0.5692
Kitchen Inefficient	206	2,135	218	1,932	0.8551
Living Room	425	3,572	640	4,098	0.7618
Living Room Efficient	156	1,437	328	2,166	0.7169
Living Room Inefficient	269	2,135	312	1,932	0.7802
Other	1,260	3,572	892	4,098	1.6206
Other Efficient	660	1,437	501	2,166	1.9857
Other Inefficient	600	2,135	391	1,932	1.3886

Table D-13: Manhattan Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
High Rise Bathroom	636	3,766	119	544	0.7720
High Rise Bathroom Efficient	153	1,096	42	261	0.8675
High Rise Bathroom Inefficient	483	2,640	77	283	0.6724
High Rise Bedroom	745	3,766	108	544	0.9964
High Rise Bedroom Efficient	219	1,096	48	261	1.0865
High Rise Bedroom Inefficient	526	2,640	60	283	0.9398
High Rise Dining Room	335	3,766	51	544	0.9488
High Rise Dining Room Efficient	67	1,096	21	261	0.7598
High Rise Dining Room Inefficient	268	2,640	30	283	0.9576
High Rise Exterior	51	3,766	1	544	7.3670
High Rise Exterior Efficient	10	1,096	-	261	1.0000
High Rise Exterior Inefficient	41	2,640	1	283	4.3951
High Rise Kitchen	528	3,766	104	544	0.7334
High Rise Kitchen Efficient	206	1,096	71	261	0.6909
High Rise Kitchen Inefficient	322	2,640	33	283	1.0460
High Rise Living Room	592	3,766	102	544	0.8384
High Rise Living Room Efficient	206	1,096	48	261	1.0220
High Rise Living Room Inefficient	386	2,640	54	283	0.7663
High Rise Other	849	3,766	59	544	2.0786
High Rise Other Efficient	235	1,096	31	261	1.8052
High Rise Other Inefficient	614	2,640	28	283	2.3507

Table D-14: Connecticut Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	665	4,098	581	4,098	1.1446
Bathroom Efficient Bulb	274	1,832	291	2,166	1.1132
Bathroom Inefficient Bulb	391	2,266	290	1,932	1.1495
Bedroom	647	4,098	805	4,098	0.8037
Bedroom Efficient	298	1,832	388	2,166	0.9081
Bedroom Inefficient	349	2,266	417	1,932	0.7136
Dining Room	301	4,098	350	4,098	0.8600
Dining Room Efficient	77	1,832	153	2,166	0.5950
Dining Room Inefficient	224	2,266	197	1,932	0.9695
Exterior	335	4,098	183	4,098	1.8306
Exterior Efficient	84	1,832	76	2,166	1.3068
Exterior Inefficient	251	2,266	107	1,932	2.0000
Kitchen	465	4,098	647	4,098	0.7187
Kitchen Efficient	295	1,832	429	2,166	0.8130
Kitchen Inefficient	170	2,266	218	1,932	0.6649
Living Room	530	4,098	640	4,098	0.8281
Living Room Efficient	231	1,832	328	2,166	0.8327
Living Room Inefficient	299	2,266	312	1,932	0.8171
Other	1,155	4,098	892	4,098	1.2948
Other Efficient	573	1,832	501	2,166	1.3522
Other Inefficient	582	2,266	391	1,932	1.2691

Table D-15: Rhode Island Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	216	1,749	581	4,098	0.8711
Bathroom Efficient Bulb	75	774	291	2,166	0.7212
Bathroom Inefficient Bulb	141	975	290	1,932	0.9634
Bedroom	287	1,749	805	4,098	0.8353
Bedroom Efficient	110	774	388	2,166	0.7934
Bedroom Inefficient	177	975	417	1,932	0.8411
Dining Room	117	1,749	350	4,098	0.7832
Dining Room Efficient	24	774	153	2,166	0.4390
Dining Room Inefficient	93	975	197	1,932	0.9354
Exterior	114	1,749	183	4,098	1.4596
Exterior Efficient	33	774	76	2,166	1.2151
Exterior Inefficient	81	975	107	1,932	1.5000
Kitchen	201	1,749	647	4,098	0.7279
Kitchen Efficient	97	774	429	2,166	0.6327
Kitchen Inefficient	104	975	218	1,932	0.9453
Living Room	201	1,749	640	4,098	0.7359
Living Room Efficient	80	774	328	2,166	0.6825
Living Room Inefficient	121	975	312	1,932	0.7685
Other	613	1,749	892	4,098	1.6102
Other Efficient	355	774	501	2,166	1.9829
Other Inefficient	258	975	391	1,932	1.3075

Table D-16: Massachusetts Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	403	3,572	581	4,098	0.7958
Bathroom Efficient Bulb	153	1,437	291	2,166	0.7925
Bathroom Inefficient Bulb	250	2,135	290	1,932	0.7801
Bedroom	524	3,572	805	4,098	0.7468
Bedroom Efficient	184	1,437	388	2,166	0.7148
Bedroom Inefficient	340	2,135	417	1,932	0.7378
Dining Room	297	3,572	350	4,098	0.9735
Dining Room Efficient	76	1,437	153	2,166	0.7487
Dining Room Inefficient	221	2,135	197	1,932	1.0152
Exterior	295	3,572	183	4,098	1.8494
Exterior Efficient	46	1,437	76	2,166	0.9123
Exterior Inefficient	249	2,135	107	1,932	2.1058
Kitchen	368	3,572	647	4,098	0.6525
Kitchen Efficient	162	1,437	429	2,166	0.5692
Kitchen Inefficient	206	2,135	218	1,932	0.8551
Living Room	425	3,572	640	4,098	0.7618
Living Room Efficient	156	1,437	328	2,166	0.7169
Living Room Inefficient	269	2,135	312	1,932	0.7802
Other	1,260	3,572	892	4,098	1.6206
Other Efficient	660	1,437	501	2,166	1.9857
Other Inefficient	600	2,135	391	1,932	1.3886

Table D-17: Northeast Low Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	1,530	12,851	340	2,413	0.8450
Bathroom Efficient Bulb	636	5,858	175	1,297	0.8047
Bathroom Inefficient Bulb	894	6,993	165	1,116	0.8647
Bedroom	2,617	12,851	504	2,413	0.9750
Bedroom Efficient	1,068	5,858	251	1,297	0.9421
Bedroom Inefficient	1,549	6,993	253	1,116	0.9771
Dining Room	668	12,851	163	2,413	0.7695
Dining Room Efficient	221	5,858	84	1,297	0.5825
Dining Room Inefficient	447	6,993	79	1,116	0.9030
Exterior	853	12,851	111	2,413	1.4429
Exterior Efficient	249	5,858	49	1,297	1.1251
Exterior Inefficient	604	6,993	62	1,116	1.5547
Kitchen	1,541	12,851	398	2,413	0.7270
Kitchen Efficient	891	5,858	257	1,297	0.7676
Kitchen Inefficient	650	6,993	141	1,116	0.7357
Living Room	1,559	12,851	373	2,413	0.7848
Living Room Efficient	655	5,858	180	1,297	0.8057
Living Room Inefficient	904	6,993	193	1,116	0.7475
Other	3,670	12,851	524	2,413	1.3151
Other Efficient	1,940	5,858	301	1,297	1.4270
Other Inefficient	1,730	6,993	223	1,116	1.2381
High Rise Bathroom	66	12,851	339	2,413	0.0366
High Rise Bathroom Efficient	22	5,858	175	1,297	0.0278
High Rise Bathroom Inefficient	44	6,993	164	1,116	0.0428
High Rise Bedroom	100	12,851	478	2,413	0.0393
High Rise Bedroom Efficient	54	5,858	248	1,297	0.0482
High Rise Bedroom Inefficient	46	6,993	254	1,116	0.0289
High Rise Dining Room	42	12,851	172	2,413	0.0459
High Rise Dining Room Efficient	27	5,858	97	1,297	0.0616
High Rise Dining Room Inefficient	15	6,993	99	1,116	0.0242
High Rise Exterior	1	12,851	132	2,413	0.0014
High Rise Exterior Efficient	0	5,858	72	1,297	1.0000
High Rise Exterior Inefficient	1	6,993	84	1,116	0.0019

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
High Rise Kitchen	48	12,851	379	2,413	0.0238
High Rise Kitchen Efficient	35	5,858	249	1,297	0.0311
High Rise Kitchen Inefficient	13	6,993	154	1,116	0.0135
High Rise Living Room	88	12,851	360	2,413	0.0459
High Rise Living Room Efficient	35	5,858	186	1,297	0.0417
High Rise Living Room Inefficient	53	6,993	198	1,116	0.0427
High Rise Other	68	12,851	507	2,413	0.0252
High Rise Other Efficient	25	5,858	300	1,297	0.0185
High Rise Other Inefficient	43	6,993	231	1,116	0.0297

Table D-18: NYSEDA Low Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	186	1,961	340	2,413	0.6732
Bathroom Efficient Bulb	98	983	175	1,297	0.7389
Bathroom Inefficient Bulb	88	978	165	1,116	0.6086
Bedroom	267	1,961	504	2,413	0.6519
Bedroom Efficient	134	983	251	1,297	0.7044
Bedroom Inefficient	133	978	253	1,116	0.5999
Dining Room	167	1,961	163	2,413	1.2607
Dining Room Efficient	58	983	84	1,297	0.9110
Dining Room Inefficient	109	978	79	1,116	1.5744
Exterior	85	1,961	111	2,413	0.9423
Exterior Efficient	23	983	49	1,297	0.6193
Exterior Inefficient	62	978	62	1,116	1.1411
Kitchen	191	1,961	398	2,413	0.5905
Kitchen Efficient	143	983	257	1,297	0.7342
Kitchen Inefficient	48	978	141	1,116	0.3885
Living Room	213	1,961	373	2,413	0.7027
Living Room Efficient	75	983	180	1,297	0.5498
Living Room Inefficient	138	978	193	1,116	0.8159
Other	439	1,961	524	2,413	1.0309
Other Efficient	254	983	301	1,297	1.1134
Other Inefficient	185	978	223	1,116	0.9467

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
High Rise Bathroom	66	1,961	340	2,413	0.2389
High Rise Bathroom Efficient	22	983	175	1,297	0.1659
High Rise Bathroom Inefficient	44	978	165	1,116	0.3043
High Rise Bedroom	100	1,961	504	2,413	0.2441
High Rise Bedroom Efficient	54	983	251	1,297	0.2839
High Rise Bedroom Inefficient	46	978	253	1,116	0.2075
High Rise Dining Room	42	1,961	163	2,413	0.3171
High Rise Dining Room Efficient	27	983	84	1,297	0.4241
High Rise Dining Room Inefficient	15	978	79	1,116	0.2167
High Rise Exterior	1	1,961	111	2,413	0.0111
High Rise Exterior Efficient	0	983	49	1,297	1
High Rise Exterior Inefficient	1	978	62	1,116	0.0184
High Rise Kitchen	48	1,961	398	2,413	0.1484
High Rise Kitchen Efficient	35	983	257	1,297	0.1797
High Rise Kitchen Inefficient	13	978	141	1,116	0.1052
High Rise Living Room	88	1,961	373	2,413	0.2903
High Rise Living Room Efficient	35	983	180	1,297	0.2566
High Rise Living Room Inefficient	53	978	193	1,116	0.3134
High Rise Other	68	1,961	524	2,413	0.1597
High Rise Other Efficient	25	983	301	1,297	0.1096
High Rise Other Inefficient	43	978	223	1,116	0.2200

Table D-19: Downstate NY Low Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	75	968	340	2,413	0.5499
Bathroom Efficient Bulb	49	539	175	1,297	0.6738
Bathroom Inefficient Bulb	26	429	165	1,116	0.4099
Bedroom	116	968	504	2,413	0.5737
Bedroom Efficient	61	539	251	1,297	0.5848
Bedroom Inefficient	55	429	253	1,116	0.5655
Dining Room	53	968	163	2,413	0.8105
Dining Room Efficient	28	539	84	1,297	0.8021
Dining Room Inefficient	25	429	79	1,116	0.8232
Exterior	8	968	111	2,413	0.1797
Exterior Efficient	6	539	49	1,297	0.2946
Exterior Inefficient	2	429	62	1,116	0.0839
Kitchen	97	968	398	2,413	0.6075
Kitchen Efficient	80	539	257	1,297	0.7490
Kitchen Inefficient	17	429	141	1,116	0.3136
Living Room	86	968	373	2,413	0.5747
Living Room Efficient	37	539	180	1,297	0.4946
Living Room Inefficient	49	429	193	1,116	0.6605
Other	120	968	524	2,413	0.5709
Other Efficient	80	539	301	1,297	0.6396
Other Inefficient	40	429	223	1,116	0.4666
High Rise Bathroom	66	968	339	2,413	0.4853
High Rise Bathroom Efficient	22	539	175	1,297	0.3025
High Rise Bathroom Inefficient	44	429	164	1,116	0.6979
High Rise Bedroom	100	968	478	2,413	0.5215
High Rise Bedroom Efficient	54	539	248	1,297	0.5240
High Rise Bedroom Inefficient	46	429	254	1,116	0.4711
High Rise Dining Room	42	968	172	2,413	0.6087
High Rise Dining Room Efficient	27	539	97	1,297	0.6698
High Rise Dining Room Inefficient	15	429	99	1,116	0.3942
High Rise Exterior	1	968	132	2,413	0.0189
High Rise Exterior Efficient	0	539	72	1,297	1.0000
High Rise Exterior Inefficient	1	429	84	1,116	0.0310

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
High Rise Kitchen	48	968	379	2,413	0.3157
High Rise Kitchen Efficient	35	539	249	1,297	0.3382
High Rise Kitchen Inefficient	13	429	154	1,116	0.2196
High Rise Living Room	88	968	360	2,413	0.6093
High Rise Living Room Efficient	35	539	186	1,297	0.4528
High Rise Living Room Inefficient	53	429	198	1,116	0.6963
High Rise Other	68	968	507	2,413	0.3343
High Rise Other Efficient	25	539	300	1,297	0.2005
High Rise Other Inefficient	43	429	231	1,116	0.4842

Table D-20: Upstate NY Low Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	111	993	26	210	0.9029
Bathroom Efficient Bulb	49	444	25	114	0.5032
Bathroom Inefficient Bulb	62	549	1	96	10.8415
Bedroom	151	993	36	210	0.8870
Bedroom Efficient	73	444	10	114	1.8743
Bedroom Inefficient	78	549	26	96	0.5246
Dining Room	114	993	22	210	1.0959
Dining Room Efficient	30	444	10	114	0.7703
Dining Room Inefficient	84	549	12	96	1.2240
Exterior	77	993	18	210	0.9047
Exterior Efficient	17	444	8	114	0.5456
Exterior Inefficient	60	549	10	96	1.0492
Kitchen	94	993	32	210	0.6212
Kitchen Efficient	63	444	25	114	0.6470
Kitchen Inefficient	31	549	7	96	0.7744
Living Room	127	993	29	210	0.9261
Living Room Efficient	38	444	9	114	1.0841
Living Room Inefficient	89	549	20	96	0.7781
Other	319	993	47	210	1.4354
Other Efficient	174	444	26	114	1.7183
Other Inefficient	145	549	21	96	1.2074

Table D-21: Manhattan Low Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
High Rise Bathroom	66	413	24	102	0.6792
High Rise Bathroom Efficient	22	198	9	60	0.7407
High Rise Bathroom Inefficient	44	215	15	42	0.5730
High Rise Bedroom	100	413	18	102	1.3721
High Rise Bedroom Efficient	54	198	12	60	1.3636
High Rise Bedroom Inefficient	46	215	6	42	1.4977
High Rise Dining Room	42	413	7	102	1.4818
High Rise Dining Room Efficient	27	198	7	60	1.1688
High Rise Dining Room Inefficient	15	215	-	42	1.0000
High Rise Exterior	1	413	1	102	0.2470
High Rise Exterior Efficient	0	198	1	60	1.0000
High Rise Exterior Inefficient	1	215	-	42	1.0000
High Rise Kitchen	48	413	20	102	0.5927
High Rise Kitchen Efficient	35	198	14	60	0.7576
High Rise Kitchen Inefficient	13	215	6	42	0.4233
High Rise Living Room	88	413	19	102	1.1439
High Rise Living Room Efficient	35	198	11	60	0.9642
High Rise Living Room Inefficient	53	215	8	42	1.2942
High Rise Other	68	413	13	102	1.2919
High Rise Other Efficient	25	198	7	60	1.0823
High Rise Other Inefficient	43	215	6	42	1.4000

Table D-22: Connecticut Low Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	145	867	316	2,311	1.2231
Bathroom Efficient Bulb	70	431	166	1,237	1.2103
Bathroom Inefficient Bulb	75	436	150	1,074	1.2317
Bedroom	160	867	486	2,311	0.8775
Bedroom Efficient	81	431	239	1,237	0.9727
Bedroom Inefficient	79	436	247	1,074	0.7879
Dining Room	66	867	156	2,311	1.1277
Dining Room Efficient	24	431	77	1,237	0.8946
Dining Room Inefficient	42	436	79	1,074	1.3096
Exterior	57	867	110	2,311	1.3812
Exterior Efficient	19	431	48	1,237	1.1361
Exterior Inefficient	38	436	62	1,074	1.5098
Kitchen	109	867	378	2,311	0.7686
Kitchen Efficient	63	431	243	1,237	0.7441
Kitchen Inefficient	46	436	135	1,074	0.8393
Living Room	147	867	354	2,311	1.1069
Living Room Efficient	72	431	169	1,237	1.2228
Living Room Inefficient	75	436	185	1,074	0.9986
Other	183	867	511	2,311	0.9546
Other Efficient	102	431	294	1,237	0.9957
Other Inefficient	81	436	217	1,074	0.9195

Table D-23: Rhode Island Low-Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	55	493	316	2,311	0.8159
Bathroom Efficient Bulb	21	203	166	1,237	0.7709
Bathroom Inefficient Bulb	34	290	150	1,074	0.8394
Bedroom	93	493	486	2,311	0.8970
Bedroom Efficient	33	203	239	1,237	0.8414
Bedroom Inefficient	60	290	247	1,074	0.8996
Dining Room	19	493	156	2,311	0.5709
Dining Room Efficient	6	203	77	1,237	0.4748
Dining Room Inefficient	13	290	79	1,074	0.6094
Exterior	33	493	110	2,311	1.4063
Exterior Efficient	4	203	48	1,237	0.5078
Exterior Inefficient	29	290	62	1,074	1.7323
Kitchen	74	493	378	2,311	0.9177
Kitchen Efficient	20	203	243	1,237	0.5015
Kitchen Inefficient	54	290	135	1,074	1.4814
Living Room	74	493	354	2,311	0.9799
Living Room Efficient	32	203	169	1,237	1.1538
Living Room Inefficient	42	290	185	1,074	0.8408
Other	145	493	511	2,311	1.3301
Other Efficient	87	203	294	1,237	1.8032
Other Inefficient	58	290	217	1,074	0.9899

Table D-24: Massachusetts Low-Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	1,144	9,530	316	2,311	0.8779
Bathroom Efficient Bulb	447	4,241	166	1,237	0.7854
Bathroom Inefficient Bulb	697	5,289	150	1,074	0.9436
Bedroom	2,097	9,530	486	2,311	1.0463
Bedroom Efficient	820	4,241	239	1,237	1.0007
Bedroom Inefficient	1,277	5,289	247	1,074	1.0498
Dining Room	416	9,530	156	2,311	0.6467
Dining Room Efficient	133	4,241	77	1,237	0.5038
Dining Room Inefficient	283	5,289	79	1,074	0.7274
Exterior	678	9,530	110	2,311	1.4947
Exterior Efficient	203	4,241	48	1,237	1.2335
Exterior Inefficient	475	5,289	62	1,074	1.5557
Kitchen	1,167	9,530	378	2,311	0.7487
Kitchen Efficient	665	4,241	243	1,237	0.7982
Kitchen Inefficient	502	5,289	135	1,074	0.7551
Living Room	1,125	9,530	354	2,311	0.7706
Living Room Efficient	476	4,241	169	1,237	0.8215
Living Room Inefficient	649	5,289	185	1,074	0.7124
Other	2,903	9,530	511	2,311	1.3776
Other Efficient	1,497	4,241	294	1,237	1.4852
Other Inefficient	1,406	5,289	217	1,074	1.3157

Table D-25: Northeast Non-Low-Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	1,916	20,908	360	2,229	0.5674
Bathroom Efficient Bulb	668	7,523	158	1,130	0.6350
Bathroom Inefficient Bulb	1,248	13,385	202	1,099	0.5073
Bedroom	2,312	20,908	409	2,229	0.6026
Bedroom Efficient	912	7,523	185	1,130	0.7405
Bedroom Inefficient	1,400	13,385	224	1,099	0.5132
Dining Room	1,120	20,908	238	2,229	0.5017
Dining Room Efficient	242	7,523	90	1,130	0.4039
Dining Room Inefficient	878	13,385	148	1,099	0.4871
Exterior	985	20,908	73	2,229	1.4385
Exterior Efficient	241	7,523	27	1,130	1.3407
Exterior Inefficient	744	13,385	46	1,099	1.3280
Kitchen	1,772	20,908	353	2,229	0.5352
Kitchen Efficient	912	7,523	243	1,130	0.5637
Kitchen Inefficient	860	13,385	110	1,099	0.6419
Living Room	1,735	20,908	369	2,229	0.5013
Living Room Efficient	674	7,523	196	1,130	0.5165
Living Room Inefficient	1,061	13,385	173	1,099	0.5036
Other	4,422	20,908	427	2,229	1.1040
Other Efficient	2,078	7,523	231	1,130	1.3512
Other Inefficient	2,344	13,385	196	1,099	0.9819
High Rise Bathroom	570	20,908	360	2,229	0.1688
High Rise Bathroom Efficient	131	7,523	158	1,130	0.1245
High Rise Bathroom Inefficient	439	13,385	202	1,099	0.1784
High Rise Bedroom	645	20,908	409	2,229	0.1681
High Rise Bedroom	165		185	1,130	0.1340

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Efficient		7,523			
High Rise Bedroom Inefficient	480	13,385	224	1,099	0.1759
High Rise Dining Room	293	20,908	238	2,229	0.1312
High Rise Dining Room Efficient	40	7,523	90	1,130	0.0668
High Rise Dining Room Inefficient	253	13,385	148	1,099	0.1404
High Rise Exterior	50	20,908	73	2,229	0.0730
High Rise Exterior Efficient	10	7,523	27	1,130	0.0556
High Rise Exterior Inefficient	40	13,385	46	1,099	0.0714
High Rise Kitchen	480	20,908	353	2,229	0.1450
High Rise Kitchen Efficient	171	7,523	243	1,130	0.1057
High Rise Kitchen Inefficient	309	13,385	110	1,099	0.2306
High Rise Living Room	504	20,908	369	2,229	0.1456
High Rise Living Room Efficient	171	7,523	196	1,130	0.1310
High Rise Living Room Inefficient	333	13,385	173	1,099	0.1580
High Rise Other	781	20,908	427	2,229	0.1950
High Rise Other Efficient	210	7,523	231	1,130	0.1366
High Rise Other Inefficient	571	13,385	196	1,099	0.2392

Table D-26: NYSERDA Non-low Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	558	11,493	360	2,229	0.3006
Bathroom Efficient Bulb	186	3,532	158	1,130	0.3766
Bathroom Inefficient Bulb	372	7,961	202	1,099	0.2542
Bedroom	715	11,493	409	2,229	0.3390
Bedroom Efficient	242	3,532	185	1,130	0.4185
Bedroom Inefficient	473	7,961	224	1,099	0.2915
Dining Room	395	11,493	238	2,229	0.3219
Dining Room Efficient	98	3,532	90	1,130	0.3484
Dining Room Inefficient	297	7,961	148	1,099	0.2770
Exterior	340	11,493	73	2,229	0.9033
Exterior Efficient	58	3,532	27	1,130	0.6873
Exterior Inefficient	282	7,961	46	1,099	0.8463
Kitchen	572	11,493	353	2,229	0.3143
Kitchen Efficient	202	3,532	243	1,130	0.2660
Kitchen Inefficient	370	7,961	110	1,099	0.4643
Living Room	625	11,493	369	2,229	0.3285
Living Room Efficient	208	3,532	196	1,130	0.3395
Living Room Inefficient	417	7,961	173	1,099	0.3328
Other	1,642	11,493	427	2,229	0.7458
Other Efficient	742	3,532	231	1,130	1.0277
Other Inefficient	900	7,961	196	1,099	0.6339
High Rise Bathroom	570	11,493	360	2,229	0.3071
High Rise Bathroom Efficient	131	3,532	158	1,130	0.2653
High Rise Bathroom Inefficient	439	7,961	202	1,099	0.3000
High Rise Bedroom	645	11,493	409	2,229	0.3059
High Rise Bedroom Efficient	165	3,532	185	1,130	0.2853
High Rise Bedroom Inefficient	480	7,961	224	1,099	0.2958
High Rise Dining Room	293	11,493	238	2,229	0.2388
High Rise Dining Room Efficient	40	3,532	90	1,130	0.1422
High Rise Dining Room Inefficient	253	7,961	148	1,099	0.2360
High Rise Exterior	50	11,493	73	2,229	0.1328
High Rise Exterior Efficient	10	3,532	27	1,130	0.1185
High Rise Exterior Inefficient	40	7,961	46	1,099	0.1200

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
High Rise Kitchen	480	11,493	353	2,229	0.2637
High Rise Kitchen Efficient	171	3,532	243	1,130	0.2251
High Rise Kitchen Inefficient	309	7,961	110	1,099	0.3878
High Rise Living Room	504	11,493	369	2,229	0.2649
High Rise Living Room Efficient	171	3,532	196	1,130	0.2791
High Rise Living Room Inefficient	333	7,961	173	1,099	0.2657
High Rise Other	781	11,493	427	2,229	0.3547
High Rise Other Efficient	210	3,532	231	1,130	0.2908
High Rise Other Inefficient	571	7,961	196	1,099	0.4022

Table D-27: Downstate NY Non-Low-Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	266	5,591	360	2,229	0.2946
Bathroom Efficient Bulb	82	1,641	158	1,130	0.3574
Bathroom Inefficient Bulb	184	3,950	202	1,099	0.2534
Bedroom	342	5,591	409	2,229	0.3334
Bedroom Efficient	131	1,641	185	1,130	0.4876
Bedroom Inefficient	211	3,950	224	1,099	0.2621
Dining Room	212	5,591	238	2,229	0.3551
Dining Room Efficient	52	1,641	90	1,130	0.3979
Dining Room Inefficient	160	3,950	148	1,099	0.3008
Exterior	122	5,591	73	2,229	0.6663
Exterior Efficient	29	1,641	27	1,130	0.7396
Exterior Inefficient	93	3,950	46	1,099	0.5625
Kitchen	298	5,591	353	2,229	0.3366
Kitchen Efficient	103	1,641	243	1,130	0.2919
Kitchen Inefficient	195	3,950	110	1,099	0.4932
Living Room	327	5,591	369	2,229	0.3533
Living Room Efficient	90	1,641	196	1,130	0.3162
Living Room Inefficient	237	3,950	173	1,099	0.3812
Other	701	5,591	427	2,229	0.6545
Other Efficient	256	1,641	231	1,130	0.7631
Other Inefficient	445	3,950	196	1,099	0.6317

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
High Rise Bathroom	570	5,591	360	2,229	0.6312
High Rise Bathroom Efficient	131	1,641	158	1,130	0.5709
High Rise Bathroom Inefficient	439	3,950	202	1,099	0.6047
High Rise Bedroom	645	5,591	409	2,229	0.6287
High Rise Bedroom Efficient	165	1,641	185	1,130	0.6142
High Rise Bedroom Inefficient	480	3,950	224	1,099	0.5962
High Rise Dining Room	293	5,591	238	2,229	0.4908
High Rise Dining Room Efficient	40	1,641	90	1,130	0.3060
High Rise Dining Room Inefficient	253	3,950	148	1,099	0.4756
High Rise Exterior	50	5,591	73	2,229	0.2731
High Rise Exterior Efficient	10	1,641	27	1,130	0.2550
High Rise Exterior Inefficient	40	3,950	46	1,099	0.2419
High Rise Kitchen	480	5,591	353	2,229	0.5421
High Rise Kitchen Efficient	171	1,641	243	1,130	0.4846
High Rise Kitchen Inefficient	309	3,950	110	1,099	0.7816
High Rise Living Room	504	5,591	369	2,229	0.5445
High Rise Living Room Efficient	171	1,641	196	1,130	0.6008
High Rise Living Room Inefficient	333	3,950	173	1,099	0.5355
High Rise Other	781	5,591	427	2,229	0.7292
High Rise Other Efficient	210	1,641	231	1,130	0.6260
High Rise Other Inefficient	571	3,950	196	1,099	0.8106

Table D-28: Upstate NY Non-Low-Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	292	2,579	265	1,787	0.7635
Bathroom Efficient Bulb	104	993	125	929	0.7784
Bathroom Inefficient Bulb	188	1,586	140	858	0.7265
Bedroom	373	2,579	319	1,787	0.8102
Bedroom Efficient	111	993	149	929	0.6970
Bedroom Inefficient	262	1,586	170	858	0.8338
Dining Room	183	2,579	194	1,787	0.6536
Dining Room Efficient	46	993	76	929	0.5663
Dining Room Inefficient	137	1,586	118	858	0.6281
Exterior	218	2,579	73	1,787	2.0692
Exterior Efficient	29	993	27	929	1.0048
Exterior Inefficient	189	1,586	46	858	2.2227
Kitchen	274	2,579	269	1,787	0.7058
Kitchen Efficient	99	993	186	929	0.4980
Kitchen Inefficient	175	1,586	83	858	1.1406
Living Room	298	2,579	286	1,787	0.7220
Living Room Efficient	118	993	159	929	0.6943
Living Room Inefficient	180	1,586	127	858	0.7667
Other	941	2,579	381	1,787	1.7113
Other Efficient	486	993	207	929	2.1965
Other Inefficient	455	1,586	174	858	1.4146

Table D-29: Manhattan Non-Low-Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
High Rise Bathroom	570	3,323	95	442	0.7981
High Rise Bathroom Efficient	131	898	33	201	0.8885
High Rise Bathroom Inefficient	439	2,425	62	241	0.7037
High Rise Bedroom	645	3,323	90	442	0.9533
High Rise Bedroom Efficient	165	898	36	201	1.0259
High Rise Bedroom Inefficient	480	2,425	54	241	0.8834
High Rise Dining Room	293	3,323	44	442	0.8857
High Rise Dining Room Efficient	40	898	14	201	0.6395
High Rise Dining Room Inefficient	253	2,425	30	241	0.8381
High Rise Exterior	50	3,323	0	442	1
High Rise Exterior Efficient	10	898	0	201	1
High Rise Exterior Inefficient	40	2,425	0	241	1
High Rise Kitchen	480	3,323	84	442	0.7601
High Rise Kitchen Efficient	171	898	57	201	0.6715
High Rise Kitchen Inefficient	309	2,425	27	241	1.1374
High Rise Living Room	504	3,323	83	442	0.8077
High Rise Living Room Efficient	171	898	37	201	1.0345
High Rise Living Room Inefficient	333	2,425	46	241	0.7194
High Rise Other	781	3,323	46	442	2.2583
High Rise Other Efficient	210	898	24	201	1.9585
High Rise Other Inefficient	571	2,425	22	241	2.5794

Table D-30: Connecticut Non-Low-Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	520	3,231	265	1,787	1.0853
Bathroom Efficient Bulb	204	1,401	125	929	1.0822
Bathroom Inefficient Bulb	316	1,830	140	858	1.0583
Bedroom	487	3,231	319	1,787	0.8444
Bedroom Efficient	217	1,401	149	929	0.9657
Bedroom Inefficient	270	1,830	170	858	0.7446
Dining Room	235	3,231	194	1,787	0.6700
Dining Room Efficient	53	1,401	76	929	0.4624
Dining Room Inefficient	182	1,830	118	858	0.7231
Exterior	278	3,231	73	1,787	2.1062
Exterior Efficient	65	1,401	27	929	1.5963
Exterior Inefficient	213	1,830	46	858	2.1710
Kitchen	356	3,231	269	1,787	0.7320
Kitchen Efficient	232	1,401	186	929	0.8271
Kitchen Inefficient	124	1,830	83	858	0.7005
Living Room	383	3,231	286	1,787	0.7407
Living Room Efficient	159	1,401	159	929	0.6631
Living Room Inefficient	224	1,830	127	858	0.8270
Other	972	3,231	381	1,787	1.4110
Other Efficient	471	1,401	207	929	1.5088
Other Inefficient	501	1,830	174	858	1.3500

Table D-31: Rhode Island Non-Low-Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	161	1,256	265	1,787	0.8644
Bathroom Efficient Bulb	54	571	125	929	0.7029
Bathroom Inefficient Bulb	107	685	140	858	0.9573
Bedroom	194	1,256	319	1,787	0.8653
Bedroom Efficient	77	571	149	929	0.8408
Bedroom Inefficient	117	685	170	858	0.8621
Dining Room	98	1,256	194	1,787	0.7187
Dining Room Efficient	18	571	76	929	0.3853
Dining Room Inefficient	80	685	118	858	0.8492
Exterior	81	1,256	73	1,787	1.5787
Exterior Efficient	29	571	27	929	1.7475
Exterior Inefficient	52	685	46	858	1.4159
Kitchen	127	1,256	269	1,787	0.6717
Kitchen Efficient	77	571	186	929	0.6735
Kitchen Inefficient	50	685	83	858	0.7546
Living Room	127	1,256	286	1,787	0.6318
Living Room Efficient	48	571	159	929	0.4912
Living Room Inefficient	79	685	127	858	0.7791
Other	468	1,256	381	1,787	1.7477
Other Efficient	268	571	207	929	2.1064
Other Inefficient	200	685	174	858	1.4397

Table D-32: Massachusetts Non-Low-Income Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	677	4,928	265	1,787	0.9264
Bathroom Efficient Bulb	224	2,019	125	929	0.8246
Bathroom Inefficient Bulb	453	2,909	140	858	0.9544
Bedroom	916	4,928	319	1,787	1.0413
Bedroom Efficient	376	2,019	149	929	1.1611
Bedroom Inefficient	540	2,909	170	858	0.9369
Dining Room	392	4,928	194	1,787	0.7327
Dining Room Efficient	73	2,019	76	929	0.4420
Dining Room Inefficient	319	2,909	118	858	0.7974
Exterior	286	4,928	73	1,787	1.4207
Exterior Efficient	89	2,019	27	929	1.5167
Exterior Inefficient	197	2,909	46	858	1.2631
Kitchen	717	4,928	269	1,787	0.9665
Kitchen Efficient	401	2,019	186	929	0.9920
Kitchen Inefficient	316	2,909	83	858	1.1229
Living Room	600	4,928	286	1,787	0.7607
Living Room Efficient	259	2,019	159	929	0.7495
Living Room Inefficient	341	2,909	127	858	0.7919
Other	1,340	4,928	381	1,787	1.2754
Other Efficient	597	2,019	207	929	1.3270
Other Inefficient	743	2,909	174	858	1.2595

Table D-33: Northeast Multifamily Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	685	7,751	328	1,790	0.4823
Bathroom Efficient Bulb	260	2,772	173	965	0.5232
Bathroom Inefficient Bulb	425	4,979	155	825	0.4543
Bedroom	835	7,751	377	1,790	0.5115
Bedroom Efficient	310	2,772	166	965	0.6501
Bedroom Inefficient	525	4,979	211	825	0.4123
Kitchen	613	7,751	333	1,790	0.4251
Kitchen Efficient	367	2,772	240	965	0.5323
Kitchen Inefficient	246	4,979	93	825	0.4383
Living Room	649	7,751	318	1,790	0.4713
Living Room Efficient	253	2,772	155	965	0.5682
Living Room Inefficient	396	4,979	163	825	0.4025
Other	1,233	7,751	434	1,790	0.6561
Other Efficient	486	2,772	231	965	0.7324
Other Inefficient	747	4,979	203	825	0.6097
High Rise Bathroom	636	7,751	328	1,790	0.4478
High Rise Bathroom Efficient	153	2,772	173	965	0.3079
High Rise Bathroom Inefficient	483	4,979	155	825	0.5163
High Rise Bedroom	745	7,751	377	1,790	0.4564
High Rise Bedroom Efficient	219	2,772	166	965	0.4593
High Rise Bedroom Inefficient	526	4,979	211	825	0.4131
High Rise Kitchen	528	7,751	333	1,790	0.3662
High Rise Kitchen Efficient	206	2,772	240	965	0.2988
High Rise Kitchen Inefficient	322	4,979	93	825	0.5737
High Rise Living Room	592	7,751	318	1,790	0.4299
High Rise Living Room Efficient	206	2,772	155	965	0.4627
High Rise Living Room Inefficient	386	4,979	163	825	0.3924
High Rise Other	1,235	7,751	434	1,790	0.6572
High Rise Other Efficient	312	2,772	231	965	0.4702
High Rise Other Inefficient	923	4,979	203	825	0.7534

Table D-34: NYSERDA Multifamily Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	133	4,565	328	1,790	0.1590
Bathroom Efficient Bulb	57	1,398	173	965	0.2274
Bathroom Inefficient Bulb	76	3,167	155	825	0.1277
Bedroom	172	4,565	377	1,790	0.1789
Bedroom Efficient	59	1,398	166	965	0.2453
Bedroom Inefficient	113	3,167	211	825	0.1395
Kitchen	122	4,565	333	1,790	0.1437
Kitchen Efficient	62	1,398	240	965	0.1783
Kitchen Inefficient	60	3,167	93	825	0.1681
Living Room	154	4,565	318	1,790	0.1899
Living Room Efficient	36	1,398	155	965	0.1603
Living Room Inefficient	118	3,167	163	825	0.1886
Other	248	4,565	434	1,790	0.2241
Other Efficient	88	1,398	231	965	0.2630
Other Inefficient	160	3,167	203	825	0.2053
High Rise Bathroom	636	4,565	328	1,790	0.7603
High Rise Bathroom Efficient	153	1,398	173	965	0.6105
High Rise Bathroom Inefficient	483	3,167	155	825	0.8117
High Rise Bedroom	745	4,565	377	1,790	0.7749
High Rise Bedroom Efficient	219	1,398	166	965	0.9107
High Rise Bedroom Inefficient	526	3,167	211	825	0.6494
High Rise Kitchen	528	4,565	333	1,790	0.6217
High Rise Kitchen Efficient	206	1,398	240	965	0.5925
High Rise Kitchen Inefficient	322	3,167	93	825	0.9019
High Rise Living Room	592	4,565	318	1,790	0.7300
High Rise Living Room Efficient	206	1,398	155	965	0.9174
High Rise Living Room Inefficient	386	3,167	163	825	0.6169
High Rise Other	1,235	4,565	434	1,790	1.1158
High Rise Other Efficient	312	1,398	231	965	0.9323
High Rise Other Inefficient	923	3,167	203	825	1.1844

Table D-35: Downstate NY Multifamily Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	113	4,439	328	1,790	0.1389
Bathroom Efficient Bulb	42	1,337	173	965	0.1752
Bathroom Inefficient Bulb	71	3,102	155	825	0.1218
Bedroom	151	4,439	377	1,790	0.1615
Bedroom Efficient	50	1,337	166	965	0.2174
Bedroom Inefficient	101	3,102	211	825	0.1273
Kitchen	107	4,439	333	1,790	0.1296
Kitchen Efficient	53	1,337	240	965	0.1594
Kitchen Inefficient	54	3,102	93	825	0.1544
Living Room	142	4,439	318	1,790	0.1801
Living Room Efficient	32	1,337	155	965	0.1490
Living Room Inefficient	110	3,102	163	825	0.1795
Other	190	4,439	434	1,790	0.1765
Other Efficient	64	1,337	231	965	0.2000
Other Inefficient	126	3,102	203	825	0.1651
High Rise Bathroom	636	4,439	328	1,790	0.7819
High Rise Bathroom Efficient	153	1,337	173	965	0.6383
High Rise Bathroom Inefficient	483	3,102	155	825	0.8288
High Rise Bedroom	745	4,439	377	1,790	0.7969
High Rise Bedroom Efficient	219	1,337	166	965	0.9522
High Rise Bedroom Inefficient	526	3,102	211	825	0.6630
High Rise Kitchen	528	4,439	333	1,790	0.6394
High Rise Kitchen Efficient	206	1,337	240	965	0.6195
High Rise Kitchen Inefficient	322	3,102	93	825	0.9208
High Rise Living Room	592	4,439	318	1,790	0.7507
High Rise Living Room Efficient	206	1,337	155	965	0.9592
High Rise Living Room Inefficient	386	3,102	163	825	0.6298
High Rise Other	1,235	4,439	434	1,790	1.1475
High Rise Other Efficient	312	1,337	231	965	0.9749
High Rise Other Inefficient	923	3,102	203	825	1.2093

Table D-36: Upstate NY Multifamily Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	20	126	209	1,246	0.9463
Bathroom Efficient Bulb	15	61	131	704	1.3215
Bathroom Inefficient Bulb	5	65	78	542	0.5345
Bedroom	21	126	269	1,246	0.7720
Bedroom Efficient	9	61	118	704	0.8802
Bedroom Inefficient	12	65	151	542	0.6627
Kitchen	15	126	229	1,246	0.6477
Kitchen Efficient	9	61	169	704	0.6146
Kitchen Inefficient	6	65	60	542	0.8338
Living Room	12	126	216	1,246	0.5494
Living Room Efficient	4	61	107	704	0.4314
Living Room Inefficient	8	65	109	542	0.6120
Other	58	126	323	1,246	1.7757
Other Efficient	24	61	179	704	1.5474
Other Inefficient	34	65	144	542	1.9688

Table D-37: Manhattan Multifamily Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
High Rise Bathroom	636	3,736	119	544	0.7782
High Rise Bathroom Efficient	153	1,096	42	261	0.8675
High Rise Bathroom Inefficient	483	2,640	77	283	0.6724
High Rise Bedroom	745	3,736	108	544	1.0044
High Rise Bedroom Efficient	219	1,096	48	261	1.0865
High Rise Bedroom Inefficient	526	2,640	60	283	0.9398
High Rise Kitchen	528	3,736	104	544	0.7393
High Rise Kitchen Efficient	206	1,096	71	261	0.6909
High Rise Kitchen Inefficient	322	2,640	33	283	1.0460
High Rise Living Room	592	3,736	102	544	0.8451
High Rise Living Room Efficient	206	1,096	48	261	1.0220
High Rise Living Room Inefficient	386	2,640	54	283	0.7663
High Rise Other	1,235	3,736	111	544	1.6201
High Rise Other Efficient	312	1,096	52	261	1.4288
High Rise Other Inefficient	923	2,640	59	283	1.6770

Table D-38: Connecticut Multifamily Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	223	1,089	209	1,246	1.2208
Bathroom Efficient Bulb	81	445	131	704	0.9782
Bathroom Inefficient Bulb	142	644	78	542	1.5322
Bedroom	209	1,089	269	1,246	0.8890
Bedroom Efficient	75	445	118	704	1.0055
Bedroom Inefficient	134	644	151	542	0.7469
Kitchen	143	1,089	229	1,246	0.7145
Kitchen Efficient	98	445	169	704	0.9174
Kitchen Inefficient	45	644	60	542	0.6312
Living Room	140	1,089	216	1,246	0.7416
Living Room Efficient	67	445	107	704	0.9906
Living Room Inefficient	73	644	109	542	0.5637
Other	374	1,089	323	1,246	1.3248
Other Efficient	124	445	179	704	1.0959
Other Inefficient	250	644	144	542	1.4611

Table D-39: Rhode Island Multifamily Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	39	229	209	1,246	1.0153
Bathroom Efficient Bulb	22	108	131	704	1.0947
Bathroom Inefficient Bulb	17	121	78	542	0.9763
Bedroom	48	229	269	1,246	0.9709
Bedroom Efficient	14	108	118	704	0.7734
Bedroom Inefficient	34	121	151	542	1.0086
Kitchen	38	229	229	1,246	0.9029
Kitchen Efficient	26	108	169	704	1.0028
Kitchen Inefficient	12	121	60	542	0.8959
Living Room	36	229	216	1,246	0.9068
Living Room Efficient	15	108	107	704	0.9138
Living Room Inefficient	21	121	109	542	0.8630
Other	68	229	323	1,246	1.1455
Other Efficient	31	108	179	704	1.1289
Other Inefficient	37	121	144	542	1.1509

Table D-40: Massachusetts Multifamily Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	290	1,868	209	1,246	0.9255
Bathroom Efficient Bulb	100	821	131	704	0.6546
Bathroom Inefficient Bulb	190	1,047	78	542	1.2610
Bedroom	406	1,868	269	1,246	1.0067
Bedroom Efficient	162	821	118	704	1.1772
Bedroom Inefficient	244	1,047	151	542	0.8365
Kitchen	310	1,868	229	1,246	0.9030
Kitchen Efficient	181	821	169	704	0.9184
Kitchen Inefficient	129	1,047	60	542	1.1130
Living Room	319	1,868	216	1,246	0.9851
Living Room Efficient	135	821	107	704	1.0819
Living Room Inefficient	184	1,047	109	542	0.8739
Other	543	1,868	323	1,246	1.1213
Other Efficient	243	821	179	704	1.1641
Other Inefficient	300	1,047	144	542	1.0785

Table D-41: Northeast Single-Family Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	2,344	19,081	372	2,852	0.9418
Bathroom Efficient Bulb	901	8,363	160	1,462	0.9844
Bathroom Inefficient Bulb	1,443	10,718	212	1,390	0.8827
Bedroom	3,329	19,081	536	2,852	0.9283
Bedroom Efficient	1,429	8,363	270	1,462	0.9252
Bedroom Inefficient	1,900	10,718	266	1,390	0.9263
Dining Room	1,283	19,081	246	2,852	0.7795
Dining Room Efficient	344	8,363	99	1,462	0.6074
Dining Room Inefficient	939	10,718	147	1,390	0.8284
Exterior	1,488	19,081	178	2,852	1.2495
Exterior Efficient	397	8,363	73	1,462	0.9507
Exterior Inefficient	1,091	10,718	105	1,390	1.3475
Kitchen	2,322	19,081	418	2,852	0.8303
Kitchen Efficient	1,247	8,363	260	1,462	0.8385
Kitchen Inefficient	1,075	10,718	158	1,390	0.8824
Living Room	2,263	19,081	424	2,852	0.7978
Living Room Efficient	938	8,363	221	1,462	0.7420
Living Room Inefficient	1,325	10,718	203	1,390	0.8465
Other	6,052	19,081	678	2,852	1.3342
Other Efficient	3,107	8,363	379	1,462	1.4331
Other Inefficient	2,945	10,718	299	1,390	1.2774

Table D-42: NYSDA Single-Family Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	611	5,566	372	2,852	0.8416
Bathroom Efficient Bulb	227	2,219	160	1,462	0.9348
Bathroom Inefficient Bulb	384	3,347	212	1,390	0.7522
Bedroom	810	5,566	536	2,852	0.7743
Bedroom Efficient	317	2,219	270	1,462	0.7735
Bedroom Inefficient	493	3,347	266	1,390	0.7697
Dining Room	479	5,566	246	2,852	0.9977
Dining Room Efficient	135	2,219	99	1,462	0.8984
Dining Room Inefficient	344	3,347	147	1,390	0.9719
Exterior	421	5,566	178	2,852	1.2119
Exterior Efficient	80	2,219	73	1,462	0.7220
Exterior Inefficient	341	3,347	105	1,390	1.3487
Kitchen	641	5,566	418	2,852	0.7858
Kitchen Efficient	283	2,219	260	1,462	0.7171
Kitchen Inefficient	358	3,347	158	1,390	0.9410
Living Room	684	5,566	424	2,852	0.8266
Living Room Efficient	247	2,219	221	1,462	0.7364
Living Room Inefficient	437	3,347	203	1,390	0.8940
Other	1,920	5,566	678	2,852	1.4510
Other Efficient	930	2,219	379	1,462	1.6167
Other Inefficient	990	3,347	299	1,390	1.3751

Table D-43: Downstate NY Single-Family Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	228	2,120	372	2,852	0.8245
Bathroom Efficient Bulb	89	843	160	1,462	0.9647
Bathroom Inefficient Bulb	139	1,277	212	1,390	0.7137
Bedroom	307	2,120	536	2,852	0.7705
Bedroom Efficient	142	843	270	1,462	0.9121
Bedroom Inefficient	165	1,277	266	1,390	0.6752
Dining Room	207	2,120	246	2,852	1.1320
Dining Room Efficient	66	843	99	1,462	1.1562
Dining Room Inefficient	141	1,277	147	1,390	1.0441
Exterior	129	2,120	178	2,852	0.9750
Exterior Efficient	35	843	73	1,462	0.8315
Exterior Inefficient	94	1,277	105	1,390	0.9745
Kitchen	288	2,120	418	2,852	0.9269
Kitchen Efficient	130	843	260	1,462	0.8671
Kitchen Inefficient	158	1,277	158	1,390	1.0885
Living Room	271	2,120	424	2,852	0.8598
Living Room Efficient	95	843	221	1,462	0.7455
Living Room Inefficient	176	1,277	203	1,390	0.9437
Other	690	2,120	678	2,852	1.3691
Other Efficient	286	843	379	1,462	1.3087
Other Inefficient	404	1,277	299	1,390	1.4707

Table D-44: Upstate NY Single-Family Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	383	3,446	372	2,852	0.8521
Bathroom Efficient Bulb	138	1,376	160	1,462	0.9164
Bathroom Inefficient Bulb	245	2,070	212	1,390	0.7760
Bedroom	503	3,446	536	2,852	0.7767
Bedroom Efficient	175	1,376	270	1,462	0.6887
Bedroom Inefficient	328	2,070	266	1,390	0.8280
Dining Room	272	3,446	246	2,852	0.9151
Dining Room Efficient	69	1,376	99	1,462	0.7405
Dining Room Inefficient	203	2,070	147	1,390	0.9273
Exterior	292	3,446	178	2,852	1.3577
Exterior Efficient	45	1,376	73	1,462	0.6550
Exterior Inefficient	247	2,070	105	1,390	1.5796
Kitchen	353	3,446	418	2,852	0.6989
Kitchen Efficient	153	1,376	260	1,462	0.6252
Kitchen Inefficient	200	2,070	158	1,390	0.8500
Living Room	413	3,446	424	2,852	0.8062
Living Room Efficient	152	1,376	221	1,462	0.7308
Living Room Inefficient	261	2,070	203	1,390	0.8634
Other	1,230	3,446	678	2,852	1.5014
Other Efficient	644	1,376	379	1,462	1.8054
Other Inefficient	586	2,070	299	1,390	1.3160

Table D-45: Connecticut Single-Family Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	442	3,009	372	2,852	1.1262
Bathroom Efficient Bulb	193	1,387	160	1,462	1.2715
Bathroom Inefficient Bulb	249	1,622	212	1,390	1.0065
Bedroom	438	3,009	536	2,852	0.7745
Bedroom Efficient	223	1,387	270	1,462	0.8706
Bedroom Inefficient	215	1,622	266	1,390	0.6927
Dining Room	212	3,009	246	2,852	0.8168
Dining Room Efficient	52	1,387	99	1,462	0.5537
Dining Room Inefficient	160	1,622	147	1,390	0.9328
Exterior	310	3,009	178	2,852	1.6507
Exterior Efficient	82	1,387	73	1,462	1.1840
Exterior Inefficient	228	1,622	105	1,390	1.8608
Kitchen	322	3,009	418	2,852	0.7301
Kitchen Efficient	197	1,387	260	1,462	0.7987
Kitchen Inefficient	125	1,622	158	1,390	0.6780
Living Room	390	3,009	424	2,852	0.8718
Living Room Efficient	164	1,387	221	1,462	0.7822
Living Room Inefficient	226	1,622	203	1,390	0.9541
Other	895	3,009	678	2,852	1.2512
Other Efficient	476	1,387	379	1,462	1.3238
Other Inefficient	419	1,622	299	1,390	1.2009

Table D-46: Rhode Island Single-Family Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	160	1,311	372	2,852	0.9357
Bathroom Efficient Bulb	53	666	160	1,462	0.7272
Bathroom Inefficient Bulb	107	645	212	1,390	1.0877
Bedroom	206	1,311	536	2,852	0.8361
Bedroom Efficient	96	666	270	1,462	0.7805
Bedroom Inefficient	110	645	266	1,390	0.8912
Dining Room	76	1,311	246	2,852	0.6721
Dining Room Efficient	22	666	99	1,462	0.4878
Dining Room Inefficient	54	645	147	1,390	0.7916
Exterior	102	1,311	178	2,852	1.2466
Exterior Efficient	29	666	73	1,462	0.8721
Exterior Inefficient	73	645	105	1,390	1.4983
Kitchen	140	1,311	418	2,852	0.7286
Kitchen Efficient	71	666	260	1,462	0.5995
Kitchen Inefficient	69	645	158	1,390	0.9411
Living Room	128	1,311	424	2,852	0.6567
Living Room Efficient	65	666	221	1,462	0.6456
Living Room Inefficient	63	645	203	1,390	0.6688
Other	499	1,311	678	2,852	1.6011
Other Efficient	330	666	379	1,462	1.9114
Other Inefficient	169	645	299	1,390	1.2181

Table D-47: Massachusetts Single-Family Room Weights

Room/Bulb Type	Bulbs in a Specific Room	Bulbs in All Rooms	Metered Bulbs in Specific Room	Metered Bulbs in All Rooms	Weight
Bathroom	1,131	9,195	372	2,852	0.9430
Bathroom Efficient Bulb	428	4,091	160	1,462	0.9560
Bathroom Inefficient Bulb	703	5,104	212	1,390	0.9031
Bedroom	1,875	9,195	536	2,852	1.0850
Bedroom Efficient	793	4,091	270	1,462	1.0496
Bedroom Inefficient	1,082	5,104	266	1,390	1.1078
Dining Room	516	9,195	246	2,852	0.6506
Dining Room Efficient	135	4,091	99	1,462	0.4873
Dining Room Inefficient	381	5,104	147	1,390	0.7058
Exterior	655	9,195	178	2,852	1.1414
Exterior Efficient	206	4,091	73	1,462	1.0085
Exterior Inefficient	449	5,104	105	1,390	1.1646
Kitchen	1,219	9,195	418	2,852	0.9045
Kitchen Efficient	696	4,091	260	1,462	0.9567
Kitchen Inefficient	523	5,104	158	1,390	0.9015
Living Room	1,061	9,195	424	2,852	0.7762
Living Room Efficient	462	4,091	221	1,462	0.7471
Living Room Inefficient	599	5,104	203	1,390	0.8036
Other	2,738	9,195	678	2,852	1.2526
Other Efficient	1,371	4,091	379	1,462	1.2928
Other Inefficient	1,367	5,104	299	1,390	1.2451

Appendix E Validation of Annualization Model

Since each logger was installed for only a portion of the year – between five and nine months – we had to annualize the data to make it representative of an entire 12-month period. As discussed in Section 2.6.1 of the main report, we drew upon the methods outlined in the KEMA/Cadmus California Upstream Lighting Program Evaluation² and fit a sinusoid model to each logger to carry out the annualization. The sinusoid model for each logger took the following form:

$$h_d = \alpha + \beta \sin(\theta_d) + \varepsilon_d$$

Where

h_d = hours of use on day d ,

θ_d = angle for day d , where θ_d is 0 and the spring and fall equinox, $\pi/2$ for d = December 21, and $-\pi/2$ for d = June 21,

α and β are regression coefficients,

ε_d is the residual from the regression.

In each model, α represents the average weekday (or weekend day) use for a given logger. Because a weekday model and a weekend model were fitted for each logger, we calculated the overall average usage for the year for each logger as a weighted average of the α from the weekday model and the α from the weekend model (see below for more detail).

As in the KEMA/Cadmus CA Upstream Lighting report, model fits with an estimated β coefficient having absolute value greater than 10 and those whose standard error for β was greater than one were classified as “poor.” Additionally, The Team classified as “poor” any fits yielding an annual average (α) less than or equal to zero or greater than 24. In both weekday and weekend models, the average yearly weekday/weekend value for each poor-fitting logger was set to the average daily weekday/weekend usage over the period for which the logger had data available rather than the estimated intercept (α) from the corresponding regression model. We then calculated the overall average annual daily hour of use for each logger by averaging the weekend and weekday specific averages in proportion to the number of weekend/weekday days over the course of the year. Specifically:

$$avg. hou_i = \frac{(n_{wd}\alpha_{wd,i} + n_{we}\alpha_{we,i})}{n_{wd} + n_{we}}$$

² KEMA, Inc. and the Cadmus Group, Inc. *Final Evaluation Report: Upstream Lighting Program Volume 1*. Prepared for California Public Utilities Commission, Energy Division. February 8, 2010.

Where i indexes each logger, n_{wd} is the number of weekdays over the year, n_{we} is the number of weekend days over the year, $\alpha_{wd,i}$ is the average weekday usage for logger i , and $\alpha_{we,i}$ is the average weekend usage for logger i .

Table E-1 summarizes the performance of the sinusoid model across all loggers. The model performed well for most loggers, and the average amplitude of the sine curve across all good-fitting models (the average estimate of the slope term, β) was very similar to those seen in the KEMA/Cadmus CA Upstream Lighting report,² suggesting that the overall effect of season is relatively similar in the two regions. Average estimates for poor-fitting models, on the other hand, were a bit more extreme in absolute value and exhibited much higher uncertainty than their good-fitting counterparts, which can be seen in the higher corresponding average standard errors for those estimates. This, too, is consistent with previous work in California.²

Table E-1: Performance of Annualization Model

Day	Fit	# Loggers	Intercept (α)				Slope (β)			
			Avg. Estimate	Avg. Std. Error	25th pctile t-stat	75th pctile t-stat	Avg. Estimate	Avg. Std. Error	25th pctile t-stat	75th pctile t-stat
Weekday	Good	4,004	2.6	0.2	3.5	12.9	0.3	0.3	0.8	3.1
	Poor	638	3.8	1.7	-0.2	8.1	0.6	2.4	0.9	3.0
Weekend	Good	3,301	2.2	0.3	2.3	8.5	0.2	0.4	0.6	2.5
	Poor	1,341	5.7	1.7	1.3	6.8	-0.8	2.2	0.6	2.2

“25th and 75th pctile t-stat” refers to the 25th and 75th percentiles, respectively, of the t-statistics across all models in that particular category.

The Team also considered different criteria for the classification of good/poor fitting models, including classification based on the t-statistic for the coefficient corresponding to the sine term (β) and a more stringent cutoff than an absolute value of 10 for the estimated coefficient β . When implemented, however, there were no substantive differences between the results from these different classification criteria and those discussed above, so no changes were made.

In general, it should be noted that the goal of the annualization model is not to accurately model day-to-day variations in usage over the course of the year, but rather to model fairly well the overall long-term annual trend in order to obtain a reliable estimate of annual average HOU for each logger – despite only having each logger in the field for a portion of the year. Therefore, another way to think of the annualization model is as an attempt to improve on the actual observed data we have to make it more representative of the entire year. For each logger, if the model performs well, we keep the new and “improved” annual estimate; if the model does not perform well, then there’s reason to suspect we may be introducing bias into the yearly estimate and causing more harm than good, so we revert to the average of the observed values. In this

study, given that most loggers were installed in homes within one month of the winter solstice and remained in the field for about six months, the raw average of the observed usage for each logger should already be a fair estimate of the average yearly HOU for each logger because our installation/retrieval schedule means most loggers were installed for roughly one non-repetitive half of the yearly cycle. The annualization model simply serves as an insurance policy for any loggers that might have substantially more or less than six months of data.

Appendix F Comparisons of Results

Comparisons to Recent Studies

In this section the Team compare findings from the Northeast Residential Lighting HOU Study to other recent studies in the Northeast and throughout North America. As Table F-1 shows, recent studies have shown a wide range of estimated HOU for residential lighting. When viewing the data in the table below, it is important to note that aside from the first three studies listed, all of the studies reported HOU for CFLs only. To aid with comparisons, the Team presents the HOU from the three most recently completed studies for both all bulbs and efficient bulbs. According to the Uniform Methods Protocols, a myriad of factors affect differences in HOU including demographics, housing types and vintages, CFL saturation, room type, electricity pricing, and even annual days of sunshine. The authors of the Uniform Methods Protocols go on to conclude that extrapolation of data from one region to another has not been successful in the past and goes on to recommend that program administrators collect data specific to their region and program directly through a metering study. It is important to keep this in mind when reviewing the data in the table below.

Table F-1: Estimated Hours of Use from Recent Metering Studies¹

Region	Year	Lead Author	Sample Size (Homes)	Number of Bulbs Metered ²	Estimated Average Daily HOU ²
Connecticut, Massachusetts, Rhode Island, and Upstate New York	2014	NMR Group, Inc.	653	3,677 (All Bulbs) 1,734 (Efficient)	2.7 (All Bulbs) 3.0 (Efficient)
Downstate New York	2014	NMR Group, Inc.	195	965 (All Bulbs) 481 (Efficient)	4.1 (All Bulbs) 5.2 (Efficient)
Massachusetts Low Income Households	2014	The Cadmus Group, Inc.	261	1,826(All Bulbs) 890 (Efficient)	2.6 (All Bulbs) 2.8 (Efficient)
Connecticut, Massachusetts, Rhode Island, and Vermont	2009	Nexus Market Research, Inc.	157	657	2.8
Massachusetts, Rhode Island, and Vermont	2004	Nexus Market Research, Inc.	N/A	~75	3.2
Maryland (EmPOWER)	2011	The Cadmus Group, Inc.	61	222	3.0
California (PG&E, SCE, and SDG&E service areas)	2010	KEMA, Inc.	~1,200	N/A	1.9
California (PG&E, SCE, and SDG&E service areas)	2005	KEMA, Inc.	375	983	2.3
Pacific Northwest	2010	Northwest Regional Technical Forum,	N/A	N/A	1.9 (existing) 1.5 (new)
North Carolina and South Carolina	2011	TecMarket Works	34	156	2.5 (North) 2.7 (South)
Ohio	2010	Vermont Energy Investment	N/A	N/A	2.8
Illinois	2012	Navigant Consulting	67	527	2.7

¹ Source: Uniform Methods Project: Chapter 6: Residential Lighting Evaluation Protocol.

<http://www1.eere.energy.gov/wip/pdfs/53827-6.pdf>

² The first three studies included separate estimates for all bulbs and efficient bulb types. The other studies only report on efficient bulb HOU.

Comparisons to Planning Assumptions

Here the Team presents a comparison of results to existing planning assumptions in each of the areas covered by the study. As Table F- shows, the estimates provided by this study are relatively similar to existing planning assumptions in Massachusetts, Rhode Island, and Upstate New York. Results from this study are significantly higher compared to planning assumptions for Manhattan and Downstate New York. In Connecticut, planning assumptions are provided for 11 room types and separately for non-low-income and low-income households. Some of the existing assumptions are similar to those provided by this study and others are not.

Table F-2: Comparison to Planning Assumptions

Area	Planning Assumption (HOU)	Source	Northeast Residential Lighting Study Results ¹	
			All Bulbs (HOU)	Efficient (HOU)
Connecticut (Household)	N/A	Connecticut Program Savings Documentation for 2012 Program Year	2.7	3.0
Bedroom	NLI / LI2 1.08 / 1.60		2.1	2.4
Bathroom	0.65 / 1.60		1.7	2.1
Den/Office ³	2.97 / 2.97		1.7	2.0
Garage ³	1.32 / 1.32		1.7	2.0
Hallway ³	6.25 / 1.74		1.7	2.0
Kitchen	2.97 / 3.66		4.1	4.3
Living Room	2.97 / 3.20		3.3	3.6
Dining Room	2.89 / 2.89		2.8	3.1
Exterior	2.89 / 2.89		5.6	6.0
Basement ³	1.29 / 1.45		1.7	2.0
Closet ³	1.24 / 1.24		1.7	2.0
Other ³	2.05 / 2.05		1.7	2.0
Unknown ³	2.77 / 2.77		1.7	2.0
Massachusetts (Household)	2.8	Massachusetts Technical Manual 2012	2.7	3.0
Massachusetts (Indoor)	2.5		2.5	2.6
Massachusetts (Exterior)	4.5		5.6	6.0
Rhode Island (Household)	3.2	Rhode Island Technical Reference Manual 2012	2.7	3.0
Rhode Island (Indoor)	2.5		2.5	2.6
Rhode Island (Exterior)	4.5		5.6	6.0
Upstate New York	3.2	New York Standard Approach for Estimating Energy Savings. October 2010.	2.7	3.0
Manhattan	3.2		4.1	5.2
Downstate New York	3.2		4.1	5.2

¹ In this table, the Team presents results from the Overall model for CT, MA, RI, and UNY as it is recommended that the stakeholders adopt the results from this model.

² The Connecticut planning assumptions assume separate estimates for non-low-income (NLI) and low-income households (LI). While this study does include breakdowns of NLI and LI HOU estimates the Team found few significant differences between the two groups and recommends a simpler approach.

³ Included in 'other' room type in this study.