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C1635 Impact Evaluation of the CT Energy Opportunities (EO) Program

Connecticut Energy Efficiency Board

Results Presentation

SAFER, SMARTER, GREENER

Evaluation Objectives

- Determine ex-post evaluated energy and seasonal peak demand savings and calculate retrospective and prospective realization rates for three electric end use groups and two gas end use groups and update PSD accordingly

- Evaluate the upstream lighting program portion of the Energy Opportunities (EO) program
- Update Program Savings Document (PSD) assumptions based on logger data from this study, the two previous (2014 and 2018) CT Small Business Energy Advantage (SBEA) impact evaluations (C9 and C1639), the 2015 CT Energy Conscious Blueprint (ECB) impact evaluation (C20), and the 2014 CT EO impact evaluations (C14)

Final Sample Designs

Sampling Category	Population (N)	Sample Size	Expected RP at 90% CI
Energy Opportunities Electric Sample			
Lighting	2,571	65	±10.0%
HVAC	240	26	±14.8%
Other	329	26	±15.0%
EO Electric Total	**2,743**	**117**	**±8.3%**
Energy Opportunities Gas Sample			
HVAC/DHW	156	20	±18.9%
Other	76	12	±19.4%
EO Gas Total	**208**	**32**	**±13.6%**

- Lighting responsible for 79% of EO program electric energy savings
- Stratified samples employed
- M&V with measure level analysis performed for all sites with details contained in site reports.

Upstream Lighting Sample					
Sampling Category	**Population (N)**	**kW/ISR Sample Size**	**Expected RP at 90% CI**	**kWh Sample Size**	**Expected RP at 90% CI**
Cat 1 LED Linear	2,792	46	±22.9%	17	±38.7%
Cat 3 LED Downlights	1,152	15	±44.4%	6	±69.8%
Cat 4 LED A-line/Deco	491	10	±79.4%	4	±126.3%
Cat 7 LED High/Low Bay	467	24	±30.9%	9	±52.3%
Upstream Lighting Total	**4,272**	**95**	**±17.4%**	**36**	**±28.7%**

Results: EO PSD Changes 2016 through 2020

C&I retrofit measures have undergone only minor changes since 2016

- 2017: Added fan motor load factor assumption to Rooftop-Unit Variable Frequency Drive (VFD) savings.
- 2018: Updated steam trap loss adjustment factors for leaking and failed traps and updated Energy Savings Factor (ESF) for Refrigerated Beverage Vending Machines and Glass Front Refrigerated Cooler Controls
- 2019: Updated showerhead savings (ccf/unit)
- 2020: No changes from 2019 PSD

Results: Energy Opportunities Electric Energy Savings

End Use Category	Tracking Annual Energy Savings (MWh)	Evaluation Annual Energy Savings (MWh)	Evaluation Realization Rate	Evaluation Precision at 90% CI	2020 PSD Realization Rate
Lighting	232,090	227,271	97.9%	±8.1%	101.0%
HVAC	19,015	19,423	102.1%	±35.0%	101.0%
Other	42,738	28,910	67.6%	±14.6%	101.0%
Total	**293,843**	**275,604**	**93.8%**	**±7.3%**	**101.0%**

- "Other" realization rate of 67.6% because two largest tracking savings sites had realization rates of approximately 50%
- Sample: 78% Eversource, 22% UI; Population: 79% Eversource, 21% UI
- **Recommend the use of evaluation RRs in the PSD**

Results: Energy Opportunities Lighting Savings Adjustments

Adjustment	Realization Rate	Precision at 90% CI
Documentation	98.4%	±2.1%
Technology	98.8%	±2.5%
Quantity	93.8%	±4.6%
Operational	96.8%	±6.4%
Interactive	97.9%	±1.6%

- **Documentation:** All tracking system discrepancies and documentation errors are reflected in this adjustment
- **Technology:** Changes due to the identification of a different lighting technology (fixture type and wattage)
- **Quantity:** Changes due to the identification of a different quantity of lighting fixtures installed
  Operational: Changes due to the observation or monitoring of different lighting operating hours
  Interactive: Changes due to interaction between lighting fixtures and the electric HVAC systems

Results: Energy Opportunities Electric Seasonal Peak Demand Savings

Summer Seasonal Peak Demand

End Use Category	Tracking Summer Seasonal Peak Demand Savings (kW)	Evaluation Summer Seasonal Peak Demand Savings (kW)	Evaluation Realization Rate	Evaluation Precision at 80% CI	2020 PSD Realization Rate
Lighting	27,889	27,588	98.9%	±10.6%	116.0%
HVAC	1,936	3,727	192.5%	±44.6%	116.0%
Other	2,887	3,578	123.9%	±15.4%	116.0%
Total	**32,712**	**34,893**	**106.7%**	**±10.1%**	**116.0%**

Winter Seasonal Peak Demand

End Use Category	Tracking Winter Seasonal Peak Demand Savings (kW)	Evaluation Winter Seasonal Peak Demand Savings (kW)	Evaluation Realization Rate	Evaluation Precision at 80% CI	2020 PSD Realization Rate
Lighting	25,487	29,383	115.3%	±7.6%	160.0%
HVAC	1,310	1,916	146.2%	±31.7%	160.0%
Other	2,787	5,010	179.8%	±19.6%	160.0%
Total	**29,583**	**36,309**	**122.7%**	**±7.0%**	**160.0%**

- Six HVAC sites and three Other sites had summer tracking estimates of 0.00 kW but did experience evaluation savings
- Four HVAC sites and three Other sites had winter tracking estimates of 0.00 kW but did experience evaluation savings
- **Recommend use of evaluation RRs presented here in PSD if rate of 0.00 kW in tracking system remain the same**

Results: Energy Opportunities Electric Seasonal Peak Demand Savings without 0.00 kW Tracking Savings Sites

Summer Seasonal Peak Demand

End Use Category	Tracking Summer Seasonal Peak Demand Savings (kW)	Evaluation Summer Seasonal Peak Demand Savings (kW)	Evaluation Realization Rate	Evaluation Precision at 80% CI	2020 PSD Realization Rate
Lighting	27,889	27,588	98.9%	±10.6%	116.0%
HVAC	1,936	2,834	146.4%	±47.0%	116.0%
Other	2,887	3,313	114.7%	±16.4%	116.0%
Total	**32,712**	**33,735**	**103.1%**	**±10.2%**	**116.0%**

Winter Seasonal Peak Demand

End Use Category	Tracking Winter Seasonal Peak Demand Savings (kW)	Evaluation Winter Seasonal Peak Demand Savings (kW)	Evaluation Realization Rate	Precision at 80% CI	2020 PSD Realization Rate
Lighting	25,487	29,383	115.3%	±7.6%	160.0%
HVAC	1,310	1,637	125.0%	±31.1%	160.0%
Other	2,787	4,516	162.1%	±17.2%	160.0%
Total	**29,583**	**35,536**	**120.1%**	**±7.0%**	**160.0%**

- **Recommend use of evaluation RRs presented here in PSD if kW estimates are fully populated**

Results: Energy Opportunities Gas Energy Savings

Retrospective Realization Rate Results

End Use Category	Tracking Annual Energy Savings (ccf)	Retrospective Evaluation Annual Energy Savings (ccf)	Evaluation Realization Rate	Evaluation Precision at 90% CI	2020 PSD Realization Rate
HVAC/DHW	2,197,086	1,641,254	74.7%	±17.4%	84.0%
Other	1,757,093	1,374,161	78.2%	±27.3%	100.0%
Total	**3,954,180**	**3,015,415**	**76.3%**	**±15.8%**	**91.1%**

Prospective Realization Rate Results

End Use Category	Tracking Annual Energy Savings (ccf)	Prospective Evaluation Annual Energy Savings (ccf)	Evaluation Realization Rate	Precision at 90% CI	2020 PSD Realization Rate
HVAC/DHW	2,145,240	1,641,254	76.5%	±17.5%	84.0%
Other	1,757,093	1,374,161	78.2%	±27.3%	100.0%
Total	**3,902,334**	**3,015,415**	**77.3%**	**±15.7%**	**91.2%**

- Prospective realization rate calculated due to showerhead PSD change
- Sample: 59% Eversource, 41% UI; Population: 53% Eversource, 47% UI
- **Recommend use of prospective RRs in PSD**

Results: Upstream Lighting Energy Savings

Retrospective Energy Savings

End Use Category	Tracking Annual Energy Savings (MWh)	Evaluation Annual Energy Savings (MWh)	Evaluation Realization Rate	Evaluation Precision at 90% CI
Cat 1 LED Linear	15,308	18,566	121.3%	±11.5%
Cat 3 LED Downlights	4,855	6,326	130.3%	±24.4%
Cat 4 LED A-line/Deco	3,161	3,486	110.3%	±27.7%
Cat 7 LED High/Low Bay	8,035	8,617	107.2%	±33.4%
Total	**31,358**	**36,995**	**118.0%**	**±12.7%**

Prospective Energy Savings

End Use Category	2020 PSD Annual Energy Savings (MWh)	Evaluation Annual Energy Savings (MWh)	Evaluation Realization Rate	Evaluation Precision at 90% CI
Cat 1 LED Linear	18,028	18,566	103.0%	±11.9%
Cat 3 LED Downlights	4,281	6,326	147.8%	±22.1%
Cat 4 LED A-line/Deco	2,219	3,486	157.1%	±20.4%
Cat 7 LED High/Low Bay	8,035	8,617	107.2%	±33.4%
Total	**32,563**	**36,995**	**113.6%**	**±13.0%**

- Lighting logger data leveraging hours of use were applied by building type
- Sample: 98% Eversource, 2% UI; Population: 91% Eversource, 9% UI. UI suspended their Upstream lighting program from August 2018-December 2018 due to budget restrictions

Results: Upstream Lighting Connected Demand Savings

Retrospective Connected Demand Savings

Category	Tracking Connected Demand Savings (kW)	Evaluation Connected Demand Savings (kW)	Realization Rate	Precision at 80% CI
Cat 1 LED Linear	3,669	4,222	115.1%	±7.0%
Cat 3 LED Downlights	1,277	1,254	98.2%	±16.3%
Cat 4 LED A-line/Deco	840	724	86.2%	±11.6%
Cat 7 LED High/Low Bay	2,144	1,580	73.7%	±23.7%
Total	**7,930**	**7,781**	**98.1%**	**±8.3%**

Prospective Connected Demand Savings

Category	2020 PSD Connected Demand Savings (kW)	Evaluation Connected Demand Savings (kW)	Realization Rate	Precision at 80% CI
Cat 1 LED Linear	4,148	4,222	101.8%	±5.9%
Cat 3 LED Downlights	1,124	1,254	111.6%	±20.1%
Cat 4 LED A-line/Deco	589	724	123.0%	±19.8%
Cat 7 LED High/Low Bay	2,144	1,580	73.7%	±23.7%
Total	**8,004**	**7,781**	**97.2%**	**±9.9%**

Results: Upstream Lighting In-Service Rates

Category	Tracking ISR	Evaluation Short-Term ISR	Precision at 90% CI	Evaluation Long Term ISR	Precision at 90% CI	2020 PSD ISR
Cat 1 LED Linear	100.0%	97.1%	±1.9%	97.4%	±1.8%	100.0%
Cat 3 LED Downlights	100.0%	85.9%	±22.5%	86.4%	±22.3%	84.6%
Cat 4 LED A-line/Deco	100.0%	71.4%	±15.7%	74.9%	±13.8%	84.6%
Cat 7 LED High/Low Bay	100.0%	99.6%	±0.6%	99.7%	±0.5%	100.0%
Total	**100.0%**	**95.5%**	**±2.5%**	**96.0%**	**±2.4%**	**96.1%**

- Tracking system savings assume 100% ISR; PSD assumes ISR of 84.6% or 100% depending on measure type
- PA post inspections appear to be providing high in-service rates
- Long term in-service rate calculated by using result from 2015 MA long-term upstream ISR study
- **Recommend using the short-term ISRs by product category in the PSD**

Results: Upstream Lighting Delta Watts

Retrospective Delta Watts

Category	Tracking Delta Watts	Evaluation Delta Watts	Realization Rate	Precision at 90% CI
Cat 1 LED Linear	12.91	15.33*	118.8%	±8.9%
Cat 3 LED Downlights	41.16	44.50	108.1%	±17.0%
Cat 4 LED A-line/Deco	40.32	46.86	116.2%	±16.0%
Cat 7 LED High/Low Bay	212.20	157.33*	74.1%	±30.4%
Total	**24.55**	**24.51**	**99.8%**	**±10.7%**

Prospective Delta Watts

Category	PSD Delta Watts	Evaluation Delta Watts	Realization Rate	Precision at 90% CI
Cat 1 LED Linear	14.60	15.33	105.0%	±5.6%
Cat 3 LED Downlights	35.95	44.50*	123.8%	±15.4%
Cat 4 LED A-line/Deco	28.02	46.86*	167.2%	±10.0%
Cat 7 LED High/Low Bay	212.20	157.33*	74.1%	±30.4%
Total	**25.37**	**24.51**	**96.6%**	**±9.9%**

- Asterisks identify results that are statistically different from the tracking and PSD assumptions at the 90% CI
- **Recommend continued use of measure type delta watts assumptions in 2020 PSD; adjustments accounted for using kWh RRs shown in slide 15**

Results: Upstream Lighting Energy Interactive Factors

Category	Tracking Energy Interactive Factor	Evaluation Energy Interactive Factor	Precision at 90% CI
Cat 1 LED Linear	1.000	1.081*	±3.6%
Cat 3 LED Downlights	1.000	1.023	±4.3%
Cat 4 LED A-line/Deco	1.000	1.024	±2.4%
Cat 7 LED High/Low Bay	1.000	1.008	±1.2%
Total	**1.000**	**1.024**	**±2.4%**

- Upstream lighting tracking savings do not account for interactive effects
- Asterisks identify results that are statistically different from the tracking assumptions at the 90% Confidence Interval
- **Recommend inclusion of evaluation interactive factors through application of kWh RR by category shown in Slide 15**

Results: kWh Realization Rates without In-Service Rates

Category	Delta Watts RR	HOU RR	Interactive RR	kWh RR w/o ISR
Cat 1 LED Linear	105.0%	100.0%	108.1%	113.5%
Cat 3 LED Downlights	123.8%	100.0%	102.3%	126.7%
Cat 4 LED A-line/Deco	167.2%	100.0%	102.4%	171.2%
Cat 7 LED High/Low Bay	74.1%	100.0%	100.8%	74.7%
Overall	**96.6%**	**100.0%**	**102.4%**	**98.9%**

- **Recommend use of kWh RRs by category in PSD**
- **Recommend use of overall RR of 98.9% for all other upstream lighting products**

Lighting Data Leveraging Sources

Lighting Logger Data Leveraging	Current CT EO Study	Current CT Upstream Study	2014 CT SBEA Study	2014 CT EO & 2015 CT ECB Studies	2018 CT SBEA Study	Total
Lighting Sites in Sample	65	25	42	80	54	**266**
Lighting Loggers Installed	755	79	370	1,223	272	**2,699**
Lighting Loggers/Site	11.6	3.2	8.8	15.3	5.0	**10.1**
Average Lighting Logger Duration (in months)	4.6	2.7	5.6	1.0	2.0	**3.0**

Results: Lighting Data Leveraging- Hours of Use

Building Type	Sites	Total Connected kW	Weighted Average Annual HOU	Precision at 90% Confidence Interval	2020 PSD Assumption	MA TRM Upstream Assumption	Recommended Upstream Assumption
24x7 lighting	2	14.7	8,760	±0.0%	N/A	N/A	8,760
Automotive	3	5.7	2,807	±46.1%	4,056	N/A	4,056
Education	22	1,108.7	2,967	±14.0%	2,187*	2,788	2,967
Grocery	14	194.6	7,698	±10.9%	4,055*	5,468*	5,468
Health Care	15	249.9	5,564	±15.2%	7,666*	5,413	5,564
Hotel/Motel	1	21.8	3,112	N/A	3,064	4,026	3,064
Industrial	20	960.6	5,793	±13.3%	4,730*	4,988*	5,793
Large Office	6	504.0	4,098	±8.0%	3,748*	4,181	4,098
Other	25	706.9	6,211	±11.5%	N/A	4,332*	6,211
Parking Lot/streetlights	66	677.0	6,887	±5.6%	4,368*	N/A	6,887
Religious Building/ Convention Center	6	8.3	913	±71.1%	1,955*	N/A	913
Restaurant	14	44.4	6,072	±12.3%	4,182*	5,018*	5,018
Retail	30	665.7	6,318	±9.0%	4,057*	4,939*	4,939
Small Office	30	169.0	3,595	±11.1%	3,748	4,181*	3,748
Warehouse	15	896.0	5,667	±19.9%	2,602*	6,512	5,667
Overall	**203**	**6,227.4**	**5,338**	**±5.2%**	**3,628***	**5,319**	**5,119**

- Asterisks identify results that are statistically different at the 90% confidence interval
- **Recommend continued use of site-specific HOU assumptions for EO energy savings and building type HOU estimates for upstream lighting energy savings**

Results: Lighting Data Leveraging-Summer Seasonal Peak Coincidence Factors

Building Type	Sites	Total Connected kW	Weighted Average Summer Seasonal Peak CF	Precision at 80% Confidence Interval	2020 PSD Assumption	MA TRM On-Peak Assumption	Recommended Assumption
24x7 lighting	2	14.7	100.0%	±0.0%	N/A	80.0%*	100.0%
Automotive	3	5.7	68.3%	±33.7%	N/A	80.0%	68.3%
Education	22	1,108.7	36.8%	±22.0%	59.9%*	80.0%*	36.8%
Grocery	14	194.6	90.6%	±9.3%	90.4%	80.0%*	90.4%
Health Care	15	249.9	82.5%	±5.9%	74.0%*	80.0%	82.5%
Hotel/Motel	1	21.8	40.6%	N/A	N/A	80.0%	40.6%
Industrial	20	960.6	83.0%	±5.1%	67.1%*	80.0%	83.0%
Large Office	6	504.0	77.9%	±12.4%	70.2%	80.0%	70.2%
Other	25	706.9	86.9%	±9.0%	47.6%*	80.0%	86.9%
Parking Lot/streetlights	66	677.0	67.2%	±7.4%	1.5%*	0.0%*	67.2%
Religious Building/ Convention Center	6	8.3	17.0%	±91.2%	N/A	80.0%*	17.0%
Restaurant	14	44.4	83.1%	±7.2%	77.5%	80.0%	77.5%
Retail	30	665.7	98.4%	±3.8%	79.5%*	80.0%*	98.4%
Small Office	30	169.0	76.8%	±8.0%	70.2%*	80.0%	76.8%
Warehouse	15	896.0	89.3%	±9.2%	72.7%*	80.0%*	89.3%
Overall	**203**	**6,227.4**	**75.5%**	**±3.4%**	**67.2%***	**71.3%**	**74.8%**

- Asterisks identify results that are statistically different at the 80% confidence interval
- **Recommend summer seasonal peak coincidence factors by building type for EO and Upstream lighting**

Results: Lighting Data Leveraging-Winter Seasonal Peak Coincidence Factors

Building Type	Sites	Total Connected kW	Weighted Average Winter Seasonal Peak CF	Precision at 80% Confidence Interval	2020 PSD Assumption	MA TRM On-Peak Assumption	Recommended Assumption
24x7 lighting	2	14.7	100.0%	±0.0%	N/A	61.0%*	100.0%
Automotive	3	5.7	36.9%	±48.1%	N/A	61.0%*	36.9%
Education	22	1,108.7	46.0%	±11.5%	38.8%*	61.0%*	46.0%
Grocery	14	194.6	85.6%	±9.7%	77.0%*	61.0%*	85.6%
Health Care	15	249.9	69.6%	±9.0%	61.8%*	61.0%*	69.6%
Hotel/Motel	1	21.8	37.5%	N/A	N/A	61.0%	37.5%
Industrial	20	960.6	66.5%	±12.9%	43.2%*	61.0%	66.5%
Large Office	6	504.0	58.2%	±14.6%	53.9%	61.0%	53.9%
Other	25	706.9	76.7%	±9.9%	42.8%*	61.0%*	76.7%
Parking Lot/streetlights	66	677.0	87.3%	±5.1%	66.9%*	100.0%*	87.3%
Religious Building/ Convention Center	6	8.3	9.2%	±87.8%	N/A	61.0%*	9.2%
Restaurant	14	44.4	77.0%	±6.8%	64.4%*	61.0%*	77.0%
Retail	30	665.7	85.6%	±9.5%	64.7%*	61.0%*	85.6%
Small Office	30	169.0	44.1%	±14.0%	53.9%*	61.0%*	44.1%
Warehouse	15	896.0	72.4%	±16.3%	53.5%*	61.0%	72.4%
Overall	**203**	**6,227.4**	**68.6%**	**±4.3%**	**50.1%***	**65.2%**	**68.2%**

- Asterisks identify results that are statistically different at the 80% confidence interval
- **Recommend winter seasonal peak coincidence factors by building type for EO and Upstream lighting**

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Results: Lighting Data Leveraging-Occupancy Sensor Seasonal Peak Coincidence Factors

Summer Seasonal Peak Coincidence Factor Reduction Results

Building Type	Sites	Weighted Average Summer Seasonal Peak CF	Precision at 80% Confidence Interval	2020 PSD Assumption	MA TRM Assumption	Recommeded Assumption
Overall Baseline Percent-On	203	76.4%	±3.4%	67.2%*	80.0%*	75.7%
Overall Occupancy Sensor Percent-On	58	54.4%	±7.9%	N/A	N/A	N/A
Occupancy Sensor Reduction	N/A	22.1%	±22.8%	20.5%	15.0%*	20.5%

Winter Seasonal Peak Coincidence Factor Reduction Results

Building Type	Sites	Weighted Average Winter Seasonal Peak CF	Precision at 80% Confidence Interval	2020 PSD Assumption	MA TRM Assumption	Recommeded Assumption
Overall Baseline Percent-On	203	66.2%	±4.3%	50.1%*	61.0%*	65.9%
Overall Occupancy Sensor Percent-On	58	51.8%	±9.1%	N/A	N/A	N/A
Occupancy Sensor Reduction	N/A	14.3%	±38.4%	18.9%	13.0%	18.9%

- Asterisks identify results that are statistically different at the 80% confidence interval
- **Recommended seasonal peak reduction coincidence factors are provided in the last column of each table**

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Results: Electric Energy Realization Rates Compared to Similar Programs in Other Jurisdictions

Program	State	Electric Realization Rate
2013 Custom C&I	MI	1.088
2020 Custom Electric Program	MA	1.067
2012 Custom C&I	MI	1.024
2020 Energy Opportunities HVAC	**CT**	**1.021**
2020 Energy Opportunities Lighting	**CT**	**0.979**
2015 Large C&I Retrofit Program	NH	0.976
Efficiency Vermont 2017 Custom Program	VT	0.966
2019 Custom C&I	IL	0.940
2019 Custom Electric Program	MA	0.924
2018 Custom C&I	IL	0.910
2017 Existing Buildings Program	OR	0.900
2014 -2015 Business Incentive Program	ME	0.866

Program	State	Electric Realization Rate
2014–2017 Industrial and Process Efficiency Program	NY	0.860
2011 Custom C&I	MI	0.859
Custom 2018 C&I	CA	0.820
2020 Custom Electric Program	MA	0.766
Custom 2018 C&I	CA	0.690
2020 Energy Opportunities Other	**CT**	**0.676**
2019 Custom Electric Program	MA	0.670
Custom C&I 2013-2015	CA	0.660
Custom C&I 2013-2015	CA	0.640
2018 Custom C&I	CA	0.530
Custom C&I 2013-2015	CA	0.440
2018 Custom C&I	CA	0.280

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Results: Gas and Upstream Lighting Energy Realization Rates Compared to Similar Programs in Other Jurisdictions

Gas Energy Realization Rates

Program	State	Gas Realization Rate
2011 Custom C&I	MI	1.291
2013 Custom C&I	MI	1.191
2012 Custom C&I	MI	1.106
2015 Large C&I Retrofit Program	NH	0.917
2017 Existing Buildings Program	OR	0.870
2020 Custom Gas Program	MA	0.870
2019 Custom Gas Program	MA	0.820
2020 EO Program Other	**CT**	**0.782**
2020 EO Program HVAC/DHW	**CT**	**0.765**
Custom C&I 2013-2015	CA	0.630
Custom C&I 2013-2015	CA	0.550
Custom C&I 2013-2015	CA	0.500

Upstream Lighting Energy Realization Rates

Program	State	Electric Realization Rate
2017 Upstream Lighting Program Linear LEDs	MA	1.952
2020 Upstream Lighting Program LED A-line/Decorative	**CT**	**1.571**
2020 Upstream Lighting Program LED Downlights	**CT**	**1.478**
2020 Upstream Lighting Program LED High/Low Bay	**CT**	**1.072**
2020 Upstream Lighting Program Linear LEDs	**CT**	**1.030**
2014 Upstream Lighting Program All LEDs	MA	1.019
2017 Upstream Lighting Program LED Downlights	MA	0.514
2017 Upstream Lighting Program LED A-line/Decorative	MA	0.272

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Questions?

Thank You!

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