

Commercial	Lighting	Central Lighting Control	.FESL10	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target kWh Percust
Commercial	Lighting	Switching Controls for Multilevel Lighting	.FESL11	Version, Measure Code, Assumed hours of Operation, and CF
Commercial	Lighting	Daylight Sensor controls	.FESL12	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target kWh Percust
Commercial	Lighting	Daylight Sensor controls	.FESL12	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target kWh Percust
Commercial	Lighting	Daylight Sensor controls	.FESL12NC	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target kWh Percust
Commercial	Lighting	LED Low Bay (per kW saved)	.FESL3	Version, Measure Code, and Assumed hours of Operation
Commercial	Lighting	CFL Fixture	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw in - Average	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw in - 9W	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw in - 14W	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw in - 20W	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw in - 26W	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw high wattage	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw in, Specialty average	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw in Specialty - 3-way	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw in Specialty - Dimmable	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw in Specialty - Globe	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Screw in Specialty - Candelabra	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	CFL Reflector Flood	.FESL6B	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Downlight	.FESL6	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Lamp MR16	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED lamp PAR	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Candelabra	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Globe	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Replacing A-line 50-80W	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Replacing A-line 80-100W	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Replacing Reflectors (average values)	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Replacing CFL PAR/BR/R lamp	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Replacing A-line 40W Equivalent	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Replacing A-line 60W Equivalent	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Replacing A-line 75W Equivalent	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Replacing A-line 100W Equivalent	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Reflector replacing CFL	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Candelabra replacing CFL	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	LED Globe replacing CFL	.FESL6d	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	Light Tube	.FESL9	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	Illuminated Signs to LED - Interior	.FESL27	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Commercial	Lighting	Lighting Power Density - Interior	.FESL28a	Version, Measure Code, Assumed hours of Operation, CF, and 2016 Target Coincident kW percust
Residential	Appliance	Refrigerator recycling	.FESC10	Version, 2016 Actual (non-coincident) kW and 2016 Target kWh percust
Residential	Appliance	Freezer recycling	.FESC10	Version, 2016 Actual (non-coincident) kW and 2016 Target kWh percust
Multifamily	Lighting	All T12 based fluorescent Lighting	.FESL1	Updated baseline to 50/50 magnetic/electronic ballasts
Multifamily	Lighting	All T12 based fluorescent Lighting	.FESL1aMF	Updated baseline to 50/50 magnetic/electronic ballasts
Multifamily	Lighting	All T12 based fluorescent Lighting	.FESL2MF	Updated baseline to 50/50 magnetic/electronic ballasts
Commercial	Water Heating	Commercial Water Heaters	.FESC9a	Version, efficiency levels based on CFR change
Commercial	Agricultural	Thermal Curtains for Greenhouses	.FESA1	Version, updating the length of heating season and the weather data
Commercial	Agricultural	Infrared Film for Greenhouses	.FESA2	Version, updating the length of heating season and the weather data
Commercial	Compressed Air	Compressed Air Storage Tank	.FESI38	Version, updated the application requirements
Commercial	Food Service	ENERGY STAR Ice Machines	.FESG7	Updated with new ENERGY STAR criteria, CEE Tier 2 criteria for air adn water cooled units.
Commercial	Agricultural	Variable Frequency Drives for Irrigation Pumps	.FESM2	Updated application criteria with less hours, updated the calculation with new hours
Commercial	Lighting	LED A-line lamps	.FESL6d	Updated LED costs and wattages
Residential	Lighting	LED A-line lamps	.FESL6B	Updated LED costs and wattages
Multifamily	Lighting	LED A-line lamps	.FESL6aMF	Updated LED costs and wattages
Commercial	HVAC	Programmable Thermostat		Updated with new EM&V Recommendation
Residential	HVAC	Programmable Thermostat		Updated with new EM&V Recommendation
Commercial	HVAC	DCV		Updated with new EM&V Recommendation
Commercial	HVAC	Water-Side Economizer - Reciprocating Chiller	.FESH19	New Measure
Commercial	HVAC	Water-Side Economizer - Screw Chiller	.FESH19	New Measure
Commercial	HVAC	Water-Side Economizer - Centrifugal Chiller	.FESH19	New Measure
Commercial	HVAC	Water-Side Economizer - Air Cooled Chiller	.FESH19	New Measure
Commercial	HVAC	Refrigeration Suction and Liquid Pipe Insulation - HVAC - Condition Space	.FESH22	New Measure
Commercial	HVAC	Refrigeration Suction and Liquid Pipe Insulation - HVAC - Uncondition Space	.FESH22	New Measure
Commercial	HVAC	Refrigeration Suction and Liquid Pipe Insulation - Data Center - Condition Space	.FESH22	New Measure
Commercial	HVAC	Refrigeration Suction and Liquid Pipe Insulation - Data Center - Uncondition Space	.FESH22	New Measure
Commercial	HVAC	Refrigeration Suction and Liquid Pipe Insulation - Medium Temp - Condition Space	.FESH22	New Measure
Commercial	HVAC	Refrigeration Suction and Liquid Pipe Insulation - Medium Temp - Uncondition Space	.FESH22	New Measure
Commercial	HVAC	Refrigeration Suction and Liquid Pipe Insulation - Low Temp - Condition Space	.FESH22	New Measure
Commercial	HVAC	Refrigeration Suction and Liquid Pipe Insulation - Low Temp - Uncondition Space	.FESH22	New Measure

Multifamily	Lighting	12 hr T12 4' 4Lamp - 50/50 magnetic/electronic - Used at night	.FESL2MF	Version, Measure Code, 2016 Actual kW, and 2016 Target kWh percust
Multifamily	Lighting	24 hr T12 4' 1Lamp - 50/50 magnetic/electronic	.FESL2MF	Version, Measure Code, 2016 Actual kW, 2016 Target kWh percust, and 2016 Target coincident kW percust
Multifamily	Lighting	24 hr T12 4' 2Lamp - 50/50 magnetic/electronic	.FESL2MF	Version, Measure Code, 2016 Actual kW, 2016 Target kWh percust, and 2016 Target coincident kW percust
Multifamily	Lighting	24 hr T12 4' 2Lamp - 50/50 magnetic/electronic	.FESL2MF	Version, Measure Code, 2016 Actual kW, 2016 Target kWh percust, and 2016 Target coincident kW percust
Multifamily	Lighting	24 hr T12 4' 3Lamp - 50/50 magnetic/electronic	.FESL2MF	Version, Measure Code, 2016 Actual kW, 2016 Target kWh percust, and 2016 Target coincident kW percust
Multifamily	Lighting	24 hr T12 4' 3Lamp - 50/50 magnetic/electronic	.FESL2MF	Version, Measure Code, 2016 Actual kW, 2016 Target kWh percust, and 2016 Target coincident kW percust
Multifamily	Lighting	24 hr T12 4' 4Lamp - 50/50 magnetic/electronic	.FESL2MF	Version, Measure Code, 2016 Actual kW, 2016 Target kWh percust, and 2016 Target coincident kW percust
Multifamily	Lighting	24 hr T12 4' 4Lamp - 50/50 magnetic/electronic	.FESL2MF	Version, Measure Code, 2016 Actual kW, 2016 Target kWh percust, and 2016 Target coincident kW percust
Multifamily	Lighting	24 hr T12 4' 4Lamp - 50/50 magnetic/electronic	.FESL2MF	Version, Measure Code, 2016 Actual kW, 2016 Target kWh percust, and 2016 Target coincident kW percust
Multifamily	Lighting	24 hr T12 4' 4Lamp - 50/50 magnetic/electronic	.FESL2MF	Version, Measure Code, 2016 Actual kW, 2016 Target kWh percust, and 2016 Target coincident kW percust
Multifamily	Lighting	24 hr T12 4' 4Lamp - 50/50 magnetic/electronic	.FESL2MF	Version, Measure Code, 2016 Actual kW, 2016 Target kWh percust, and 2016 Target coincident kW percust
Commercial	HVAC	AC <65k SEER 14 - 1 Ph		Name, Version, Updated for new performance data
Commercial	HVAC	AC <65k SEER 14 - 3 Ph		Name, Version, Updated for new performance data
Commercial	HVAC	AC <65k SEER 15 - 1 Ph		New Measure / Efficiency
Commercial	HVAC	AC <65k SEER 15 - 3 Ph		New Measure / Efficiency
Commercial	HVAC	AC >760k EER 10.2		Name, Version, Updated for new performance data
Commercial	HVAC	AC >760k EER 11		New Measure / Efficiency
Commercial	HVAC	AC >760k EER 12		New Measure / Efficiency
Commercial	HVAC	AC 135k - 240k EER 11.5		New Measure / Efficiency
Commercial	HVAC	AC 135k - 240k EER 12		Name, Version, Updated for new performance data
Commercial	HVAC	AC 135k - 240k EER 12.5		New Measure / Efficiency
Commercial	HVAC	AC 240k - 760k EER 10.8		Name, Version, Updated for new performance data
Commercial	HVAC	AC 240k - 760k EER 11.5		New Measure / Efficiency
Commercial	HVAC	AC 240k - 760k EER 12.5		New Measure / Efficiency
Commercial	HVAC	AC 65k - 135k EER 11.5		New Measure / Efficiency
Commercial	HVAC	AC 65k - 135k EER 12		Name, Version, Updated for new performance data
Commercial	HVAC	AC 65k - 135k EER 13		New Measure / Efficiency
Commercial	HVAC	Boiler 88% Ec		Version, Savings updated for input vs output
Commercial	HVAC	Boiler reset control		Version, Savings updated for input vs output
Commercial	HVAC	Boiler tuneup		Version, Savings updated for input vs output
Commercial	HVAC	Boiler turndown control 5:1-10:1 turndown		Version, Savings updated for input vs output
Commercial	HVAC	Gas Furnace 92 AFUE		Version, Savings updated for input vs output
Commercial	HVAC	Gas Furnace 95 AFUE		Version, Savings updated for input vs output
Commercial	HVAC	Infrared Heater		Version, Savings updated for input vs output
Commercial	HVAC	Setback/Setup		Version, Updated for new performance data
Commercial	HVAC	Infrared Heater with direct fired base		Version, Savings updated for input vs output
Commercial	HVAC	O&M Tune-up - furnace only		Version, Savings updated for input vs output
Commercial	HVAC	O2 Trim Control		Version, Savings updated for input vs output
Commercial	HVAC	Condensing Boiler 90% Ec		Version, Savings updated for input vs output
Commercial	HVAC	Boiler Economizer 80 deg delta T		Version, Savings updated for input vs output
Commercial	HVAC	Boiler Economizer 120 deg delta T		Version, Savings updated for input vs output
Commercial	HVAC	Boiler Economizer 200 deg Delta T		Version, Savings updated for input vs output
Commercial	HVAC	Boiler sequencing		Version, Savings updated for input vs output
Commercial	HVAC	Linkageless Boiler Control		Version, Savings updated for input vs output
Commercial	HVAC	Direct Fired Make-Up Air Units		Version, Savings updated for input vs output
Commercial	HVAC	Steam Boiler 82% Thermal Efficiency		Version, Savings updated for input vs output
Residential	HVAC	ASHP - SEER 15 - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	ASHP - SEER 16 - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	ASHP - SEER 17 - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	ASHP - SEER 18 - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	Boiler 87% plus AFUE		Version, Savings updated for input vs output
Residential	HVAC	Boiler 92% plus AFUE		Version, Savings updated for input vs output
Residential	HVAC	Boiler 95% plus AFUE		Version, Savings updated for input vs output
Residential	HVAC	DFHP - SEER 15 - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	DFHP - SEER 15 with 95 AFUE furnace - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	DFHP - SEER 16 - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	DFHP - SEER 16 with 95 AFUE furnace - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	DFHP - SEER 17 - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	DFHP - SEER 17 with 95 AFUE furnace - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	DFHP - SEER 18 - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	DFHP - SEER 18 with 95 AFUE furnace - SEER 14 base		Version, Updated for new performance data
Residential	HVAC	Furnace/AC - SEER 14		Version, Updated for new performance data
Residential	HVAC	Furnace/AC - SEER 14 with 95 AFUE furnace		Version, Updated for new performance data
Residential	HVAC	Furnace/AC - SEER 15		Version, Updated for new performance data
Residential	HVAC	Furnace/AC - SEER 15 with 95 AFUE furnace		Version, Updated for new performance data
Residential	HVAC	Furnace/AC - SEER 16		Version, Updated for new performance data
Residential	HVAC	Furnace/AC - SEER 16 with 95 AFUE furnace		Version, Updated for new performance data

Sector	End Use	Measure	Measure File	Change
Commercial	HVAC	Telecom or computer room hot aisle cold aisle configuration	.FESH17	New Measure for 2016
Commercial	HVAC	Telecom or computer room air side economizer	.FESH18	New Measure for 2016
Commercial	Lighting	3' LED Tubes	.FESL31	New Measure for 2016
Commercial	Lighting	8' LED Tubes	.FESL31	New Measure for 2016
Commercial	Lighting	LED Troffers (1x4, 2x2, and 2x4)	.FESL34	New Measure for 2016
Commercial	Lighting	Bi-Level Controls for LED Exterior	.FESL14b	New Measure for 2016
Commercial	Lighting	Bi-Level Controls for HID & LED Garage	.FESL14c	New Measure for 2016
Commercial	Lighting	Bi-level Controls with Photocells for HID & LED Garage	.FESL14c	New Measure for 2016
Multifamily	Lighting	LED A-Style Exterior	.FESL6aMF	New Measure for 2016
Commercial	Industrial	Fiber Laser Replacing CO2 Laser	.FESI39	New Measure for 2016
Commercial	Water Heating	Electric Tankless Water Heaters	.FESC9c	New Measure for 2016
Multifamily	Water Heating	TubSpout with Low Flow Showerhead	.FESC15b	New Measure for 2016
Residential	Water Heating	TubSpout with Low Flow Showerhead	.FESC15b	New Measure for 2016
Residential	Motors	Residential ECM Pumps	.FESM5	New Measure for 2016
Commercial	Motors	Commercial ECM Pumps	.FESM5	New Measure for 2016
Commercial	Agricultural	Milk Pre-Cooler & DHW Savings	.FESA15	New Measure for 2016
Commercial	Agricultural	Greenhouse Under-Floor/Under-Bench Hydronic Heating	.FESA17	New Measure for 2016
Commercial	HVAC	Parking Garage Exhaust Fan CO Control	.FESH20	New Measure for 2016
Commercial	Process	Process Dryer Flow Rate Control with Relative Humidity Sensors	.FESI42	New Measure for 2016
Commercial	Appliance	High Efficiency Hand Dryers	.FESC21	New Measure for 2016
Commercial	Lighting	Long daylight for Dairy	.FESL34	New Measure for 2016
Commercial	Industrial	All electric Injection Molding Machines	.FESI40	New Measure for 2016
Commercial	Industrial	All Hybrid Hydraulic/servo electric Molding Machines	.FESI40	New Measure for 2016
Commercial	Industrial	Compressed Air Replacement with Air Blowers	.FESI43	New Measure for 2016
Commercial	Industrial	Pneumatic Tools Replacement with Electric Tools	.FESI44	New Measure for 2016
Residential		Mobile Behavior Application		New Measure for 2016
Residential		Thermostat Tiers		New Measure for 2016

Omitted Measures

Sector	End Use	Measure	Measure File	Change
Commercial	Industrial	Conversion of DC Plastic Extruders to AC Drives	.FESI39	New measure requested; however, will not be pursued in MEMD at this time. Currently, for all new equipment, only AC machines are sold. And the market for new equipment converted to AC over 20 years ago. Any new equipment being replaced will likely be ROB and not early retirement, and therefore the expected measure life for the incremental investment will be small or zero.