

# Memorandum

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**From:** The Opinion Dynamics Evaluation Team

**Date:** March 20, 2023

**Re:** Ameren Illinois Company Lighting Carryover Savings Claimable in 2022

This memo summarizes carryover savings claimable in 2022 from lighting distributed by Ameren Illinois Company (AIC) energy efficiency programs in prior years but not installed until 2022. The relevant initiatives include:

- Retail Products<sup>1</sup>
- Direct Distribution (Community Kits, School Kits, and Appliance Recycling Kits)
- Income Qualified (SAVE Kits and BN Community Kits)
- Midstream Lighting<sup>2</sup>

## Methods

All 2022 carryover savings are estimated primarily based on assumptions outlined in the Illinois Technical Resource Manual Version 10.0 (IL-TRM V10.0) and finalized errata measures memo. Exceptions to this include in-service rate (ISR) trajectories and net-to-gross ratios (NTGRs), which are determined by assumptions in place during the year of purchase. All relevant ISR trajectories reflect installations over a three-year period, but exact trajectories vary by lamp type, application, and delivery channel. Based on these three-year trajectories, savings are claimed the year that lamps are installed, meaning that savings from second-year installations of lamps rebated or distributed in 2021 and third-year installations of lamps rebated or distributed in 2020 are claimed as part of the 2022 AIC portfolio.

Table 1 below provides Retail Products Initiative LED installation trajectories by bulb type and application, highlighting installations that will occur in 2022.

Table 1. Retail Products Initiative LED Lighting ISR Trajectory

| Year of Sale | Application | Bulb Type | First Year | Second Year  | Third Year   | Cumulative |
|--------------|-------------|-----------|------------|--------------|--------------|------------|
| 2021         | Residential | Standard  | 76.0%      | <b>11.9%</b> | 10.1%        | 98.0%      |
|              |             | Specialty | 81.5%      | <b>8.9%</b>  | 7.6%         | 98.0%      |
|              | Commercial  | All       | 82.5%      | <b>8.4%</b>  | 7.1%         | 98.0%      |
| 2020         | Residential | Standard  | 76.0%      | 11.9%        | <b>10.1%</b> | 98.0%      |

<sup>1</sup> Including Efficient Choice.

<sup>2</sup> Formerly Instant Incentives which was part of the Standard Initiative.

| Year of Sale | Application | Bulb Type | First Year | Second Year | Third Year | Cumulative |
|--------------|-------------|-----------|------------|-------------|------------|------------|
|              |             | Specialty | 81.5%      | 8.9%        | 7.6%       | 98.0%      |
|              | Commercial  | All       | 82.5%      | 8.4%        | 7.1%       | 98.0%      |

Table 2 below provides Direct Distribution LED installation trajectories by delivery channel, highlighting installations that will occur in 2022.

Table 2. Direct Distribution Initiative LED Lighting ISR Trajectory

| Year of Sale | Delivery Channel                            | First Year | Second Year | Third Year | Cumulative |
|--------------|---|------------|-------------|------------|------------|
| 2021         | School Kits                                 | 60.0%      | 13.0%       | 11.0%      | 84.0%      |
|              | Appliance Recycling Kits                    | 66.0%      | 14.0%       | 12.0%      | 93.0%      |
|              | Appliance Recycling Kits - Income Qualified | 68.0%      | 15.0%       | 12.0%      | 95.0%      |
|              | Food Pantry Distribution                    | 80.3%      | 9.6%        | 8.1%       | 98.0%      |
|              | Community Kits                              | 88.0%      | 4.0%        | 3.0%       | 95.0%      |
| 2020         | School Kits                                 | 60.0%      | 13.0%       | 11.0%      | 84.0%      |
|              | Appliance Recycling Kits                    | 59.0%      | 13.0%       | 11.0%      | 83.0%      |
|              | Food Pantry Distribution                    | 80.3%      | 9.6%        | 8.1%       | 98.0%      |
|              | Community Kits                              | 88.0%      | 4.0%        | 3.0%       | 95.0%      |

Table 3 below provides Income Qualified LED installation trajectories by delivery channel, highlighting installations that will occur in 2022.

Table 3. Income Qualified Initiative LED Lighting ISR Trajectory

| Year of Sale | Delivery Channel       | First Year | Second Year | Third Year | Cumulative |
|--------------|------------------------|------------|-------------|------------|------------|
| 2021         | SAVE Kits (Verified)   | 68.0%      | 15.0%       | 12.0%      | 95.0%      |
|              | SAVE Kits (Unverified) | 68.0%      | 15.0%       | 12.0%      | 95.0%      |
|              | BN Community Kits      | 68.0%      | 15.0%       | 12.0%      | 95.0%      |
| 2020         | SAVE Kits (Unverified) | 68.0%      | 15.0%       | 12.0%      | 95.0%      |
|              | SAVE Kits (Left)       | 68.0%      | 15.0%       | 12.0%      | 95.0%      |
|              | BN Community Kits      | 68.0%      | 15.0%       | 12.0%      | 95.0%      |

Table 4 below provides the Midstream Lighting channel's LED installation trajectories, highlighting installations that will occur in 2022.

Table 4. Midstream Lighting Channel LED Lighting ISR Trajectory

| Year of Sale | First Year | Second Year | Third Year | Cumulative |
|--------------|------------|-------------|------------|------------|
| 2021         | 82.5%      | 8.4%        | 7.1%       | 98.0%      |
| 2020         | 82.5%      | 8.4%        | 7.1%       | 98.0%      |

In response to uncertainty surrounding federal regulations of residential lighting, the IL-TRM V10.0 and errata recommendations specify dates after which certain categories of LED bulbs will achieve less savings as a result of expected increases in baseline efficiency levels. Specifically, it provides mid-life baseline adjustment

factors dependent on bulb type and whether bulbs are distributed to income qualified (IQ) customers. These adjustment factors are detailed in Table 5 and applied to CPAS values in future years.

**Table 5. LED Mid-Life Baseline Adjustment Factors**

| Bulb Type               | Population | Adjustment Factor | Year in Which Applied |
|-------------------------|------------|-------------------|-----------------------|
| Standard                | IQ         | 81%               | 2029                  |
| Standard                | Non-IQ     | 34%               | 2026                  |
| Standard                | Commercial | 34%               | 2026                  |
| Specialty – Directional | IQ         | 73%               | 2029                  |
| Specialty – Directional | Non-IQ     | 61%               | 2026                  |
| Specialty – Directional | Commercial | 61%               | 2026                  |
| Specialty – Decorative  | IQ         | 67%               | 2029                  |
| Specialty – Decorative  | Non-IQ     | 70%               | 2026                  |
| Specialty – Decorative  | Commercial | 70%               | 2026                  |

To quantify upstream sales to IQ customers through the Retail Products Initiative, we relied on outputs from CLEAResult’s Retail Sales Allocation Tool (RSAT) included in the 2020 and 2021 initiative sales data. The RSAT uses a comprehensive GIS analysis-based approach to estimate incidence of IQ shoppers at each participating retail location. Based on geographic location, retailer type, population density, etc. each participating store location is assigned a percentage representing its expected incidence of IQ customers, and by extension, the expected portion of their sales going to IQ customers. RSAT IQ allocations range from 5.0% to 72.7% with discount stores and pharmacies generally representing the highest RSAT IQ allocations, while online store sales received an allocation of 0%. Thrift stores are assigned deemed IQ allocations of 100% in the absence of adequate research but with the understanding that these types of retailers tend to attract a higher proportion of IQ customers than other retail channels. We used these IQ allocations to determine the appropriate mid-life baseline adjustment for bulbs sold at each retail location.

### Annual Savings

The Retail Products Initiative achieved 8,421 MWh and 1.10 MW in verified net carryover savings in 2022, as shown in Table 6. Specialty LEDs account for the majority of energy and demand savings from 2020 and 2021 purchases.

**Table 6. Retail Products Initiative Carryover Savings Claimable in 2022**

| Year | Delivery Channel                   | Bulb Type           | Verified Gross Energy Savings (MWh) | Verified Gross Demand Savings (MW) | NTGR  | Verified Net Energy Savings (MWh) | Verified Net Demand Savings (MW) |
|------|------------------------------------|---------------------|-------------------------------------|------------------------------------|-------|-----------------------------------|----------------------------------|
| 2021 | Point of Sale / Online Marketplace | Standard LED        | 1,648                               | 0.21                               | 1.000 | 1,648                             | 0.21                             |
|      |                                    | Reflector LED       | 1,816                               | 0.24                               | 0.752 | 1,365                             | 0.18                             |
|      |                                    | Specialty LED       | 2,073                               | 0.27                               | 0.715 | 1,482                             | 0.20                             |
|      |                                    | LED Fixture         | 11                                  | <0.01                              | 0.999 | 11                                | <0.01                            |
|      |                                    | LED Outdoor Fixture | 1                                   | 0.00                               | 0.690 | 1                                 | 0.00                             |
|      |                                    | LED Nightlight      | 3                                   | 0.00                               | 0.821 | 3                                 | 0.00                             |

| Year         | Delivery Channel                   | Bulb Type           | Verified Gross Energy Savings (MWh) | Verified Gross Demand Savings (MW) | NTGR         | Verified Net Energy Savings (MWh) | Verified Net Demand Savings (MW) |
|--------------|------------------------------------|---------------------|-------------------------------------|------------------------------------|--------------|-----------------------------------|----------------------------------|
|              |                                    | Connected LED       | 10                                  | <0.01                              | 0.716        | 7                                 | <0.01                            |
|              | Efficient Choice                   | LED Lighting        | 7                                   | <0.01                              | 0.758        | 5                                 | <0.01                            |
| 2020         | Point of Sale / Online Marketplace | Standard LED        | 1,374                               | 0.18                               | 0.690        | 948                               | 0.12                             |
|              |                                    | Reflector LED       | 2,034                               | 0.27                               | 0.690        | 1,403                             | 0.18                             |
|              |                                    | Specialty LED       | 2,231                               | 0.29                               | 0.690        | 1,539                             | 0.20                             |
|              |                                    | LED Fixture         | 8                                   | <0.01                              | 0.956        | 8                                 | <0.01                            |
|              |                                    | LED Outdoor Fixture | <1                                  | 0.00                               | 0.690        | <1                                | 0.00                             |
| <b>Total</b> |                                    |                     | <b>11,217</b>                       | <b>1.47</b>                        | <b>0.751</b> | <b>8,421</b>                      | <b>1.10</b>                      |

The Direct Distribution Initiative achieved 1,538 MWh and 0.18 MW in verified net carryover savings in 2022, as shown in Table 7.

Table 7. Direct Distribution Initiative Carryover Savings Claimable in 2022

| Year | Delivery Channel                         | Verified Gross Energy Savings (MWh) | Verified Gross Demand Savings (MW) | NTGR  | Verified Net Energy Savings (MWh) | Verified Net Demand Savings (MW) |
|------|--|-------------------------------------|------------------------------------|-------|-----------------------------------|----------------------------------|
| 2021 | School Kits Standard LED                 | 183                                 | 0.02                               | 1.000 | 183                               | 0.02                             |
|      | Appliance Recycling Kits Standard LED    | 62                                  | 0.01                               | 0.907 | 56                                | 0.01                             |
|      | Food Pantry Distribution Standard LED    | 556                                 | 0.07                               | 1.000 | 556                               | 0.07                             |
|      | Food Pantry Distribution LED Nightlights | 91                                  | 0.00                               | 1.000 | 91                                | 0.00                             |
|      | Community Kit Standard LED               | 40                                  | <0.01                              | 1.000 | 40                                | <0.01                            |
|      | Community Kit ENERGY STAR Desk Lamp      | 2                                   | <0.01                              | 1.000 | 2                                 | <0.01                            |
|      | Community Kit 4.5W Globe                 | 6                                   | <0.01                              | 1.000 | 6                                 | <0.01                            |
|      | Community Kit 8W Globe                   | 5                                   | <0.01                              | 1.000 | 5                                 | <0.01                            |
| 2020 | School Kits Standard LED                 | 137                                 | 0.02                               | 1.000 | 137                               | 0.02                             |
|      | Appliance Recycling Kits Standard LED    | 7                                   | <0.01                              | 1.000 | 7                                 | <0.01                            |
|      | Food Pantry Distribution Standard LED    | 438                                 | 0.06                               | 1.000 | 438                               | 0.06                             |
|      | Community Kit Standard LED               | 12                                  | <0.01                              | 1.000 | 12                                | <0.01                            |
|      | Community Kit ENERGY STAR Desk Lamp      | 1                                   | <0.01                              | 1.000 | 1                                 | <0.01                            |
|      | Community Kit 4.5W Globe                 | 2                                   | <0.01                              | 1.000 | 2                                 | <0.01                            |
|      | Community Kit 8W Globe                   | 1                                   | <0.01                              | 1.000 | 1                                 | <0.01                            |

| Year         | Delivery Channel                      | Verified Gross Energy Savings (MWh) | Verified Gross Demand Savings (MW) | NTGR         | Verified Net Energy Savings (MWh) | Verified Net Demand Savings (MW) |
|--------------|---------------------------------------|-------------------------------------|------------------------------------|--------------|-----------------------------------|----------------------------------|
|              | Appliance Recycling Kits Standard LED | 2                                   | <0.01                              | 1.000        | 2                                 | <0.01                            |
| <b>Total</b> |                                       | <b>1,543</b>                        | <b>0.18</b>                        | <b>0.996</b> | <b>1,538</b>                      | <b>0.18</b>                      |

The Income Qualified Initiative achieved 1,349 MWh and 0.16 MW in verified net carryover savings in 2022, as shown in Table 8.

Table 8. Income Qualified Initiative Carryover Savings Claimable in 2022

| Year         | Delivery Channel/Measure              | Verified Gross Energy Savings (MWh) | Verified Gross Demand Savings (MW) | NTGR         | Verified Net Energy Savings (MWh) | Verified Net Demand Savings (MW) |
|--------------|---------------------------------------|-------------------------------------|------------------------------------|--------------|-----------------------------------|----------------------------------|
| 2021         | Unverified SAVE Kit - 9W LED          | 243                                 | 0.03                               | 1.000        | 243                               | 0.03                             |
|              | Unverified SAVE Kit - 6W LED          | 142                                 | 0.02                               | 1.000        | 142                               | 0.02                             |
|              | Unverified SAVE Kit - 8W LED          | 119                                 | 0.01                               | 1.000        | 119                               | 0.01                             |
|              | Unverified SAVE Kit (No APS) - 9W LED | 143                                 | 0.02                               | 1.000        | 143                               | 0.02                             |
|              | Unverified SAVE Kit (No APS) - 6W LED | 84                                  | 0.01                               | 1.000        | 84                                | 0.01                             |
|              | Unverified SAVE Kit (No APS) - 8W LED | 70                                  | 0.01                               | 1.000        | 70                                | 0.01                             |
|              | Verified SAVE Kit - Standard LED      | 19                                  | <0.01                              | 1.000        | 19                                | <0.01                            |
|              | Verified SAVE Kit - Specialty LED     | 11                                  | <0.01                              | 1.000        | 11                                | <0.01                            |
|              | Verified SAVE Kit - Reflector LED     | 9                                   | <0.01                              | 1.000        | 9                                 | <0.01                            |
| 2020         | Unverified SAVE Kit 9W LED A19        | 241                                 | 0.03                               | 1.000        | 241                               | 0.03                             |
|              | Unverified SAVE Kit 6W LED G25        | 141                                 | 0.02                               | 1.000        | 141                               | 0.02                             |
|              | Unverified SAVE Kit 8W LED BR30       | 118                                 | 0.01                               | 1.000        | 118                               | 0.01                             |
|              | Left SAVE Kit 9W LED A19              | 2                                   | <0.01                              | 1.000        | 2                                 | <0.01                            |
|              | Left SAVE Kit 6W LED G25              | 3                                   | <0.01                              | 1.000        | 3                                 | <0.01                            |
|              | Left SAVE Kit 8W LED BR30             | 4                                   | <0.01                              | 1.000        | 4                                 | <0.01                            |
|              | BN Community Kit 9W LED A-Lamp        | <1                                  | <0.01                              | 1.000        | <1                                | <0.01                            |
|              | BN Community Kit 8W LED BR30          | <1                                  | <0.01                              | 1.000        | <1                                | <0.01                            |
|              | BN Community Kit 5.5W LED A-Lamp      | <1                                  | <0.01                              | 1.000        | <1                                | <0.01                            |
| <b>Total</b> |                                       | <b>1,349</b>                        | <b>0.16</b>                        | <b>1.000</b> | <b>1,349</b>                      | <b>0.16</b>                      |

The Midstream Lighting channel achieved 6,098 MWh and 1.45 MW in net carryover savings in 2022, as shown in Table 9. Linear LEDs account for over 95% of energy and demand savings from both 2020 and 2021 purchases.

Table 9. Midstream Lighting Carryover Savings Claimable in 2022

| Year         | Lamp Type     | Verified Gross Energy Savings (MWh) | Verified Gross Demand Savings (MW) | NTGR         | Verified Net Energy Savings (MWh) | Verified Net Demand Savings (MW) |
|--------------|---------------|-------------------------------------|------------------------------------|--------------|-----------------------------------|----------------------------------|
| 2021         | Linear LED    | 3,559                               | 0.85                               | 0.813        | 2,894                             | 0.69                             |
|              | Mogul LED     | 224                                 | 0.05                               |              | 182                               | 0.04                             |
|              | Specialty LED | 322                                 | 0.07                               |              | 262                               | 0.06                             |
| 2010         | Linear LED    | 2,619                               | 0.63                               | 0.916        | 2,400                             | 0.57                             |
|              | Mogul LED     | 271                                 | 0.06                               |              | 248                               | 0.06                             |
|              | Specialty LED | 122                                 | 0.03                               |              | 112                               | 0.02                             |
| <b>Total</b> |               | <b>7,117</b>                        | <b>1.69</b>                        | <b>0.857</b> | <b>6,098</b>                      | <b>1.45</b>                      |

## Cumulative Annual Persisting Savings

The following tables provide cumulative persisting savings (CPAS) associated with total carryover savings and carryover savings from each initiative.

Table 10. AIC Portfolio Carryover CPAS and WAML

| Initiative                    | WAML        | First-Year Verified Gross MWh | NTGR         | CPAS (Verified Net MWh) |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |
|-------------------------------|-------------|-------------------------------|--------------|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                               |             |                               |              | 2022                    | 2023          | 2024          | 2025          | 2026          | 2027          | 2028          | 2029          | 2030          | 2031          | 2032          | 2033          | 2034          | 2035          | 2036          | 2037          |               |
| Retail Products Carryover     | 9.5         | 11,217                        | 0.690        | 8,421                   | 8,421         | 8,421         | 8,421         | 6,432         | 6,218         | 6,170         | 5,115         | 5,112         | 5,112         | 12            | 12            | 12            | 12            | 12            | 9             | 0             |
| Direct Distribution Carryover | 10.0        | 1,543                         | 0.996        | 1,538                   | 1,538         | 1,538         | 1,538         | 1,518         | 1,518         | 1,518         | 1,246         | 1,155         | 1,155         | 0             | 0             | 0             | 0             | 0             | 0             | 0             |
| Income Qualified Carryover    | 10.0        | 1,349                         | 1.000        | 1,349                   | 1,349         | 1,349         | 1,349         | 1,349         | 1,349         | 1,349         | 1,014         | 1,014         | 1,014         | 0             | 0             | 0             | 0             | 0             | 0             | 0             |
| Midstream Lighting Carryover  | 14.4        | 7,117                         | 0.857        | 6,098                   | 6,098         | 6,098         | 6,098         | 5,950         | 5,942         | 5,925         | 5,726         | 5,726         | 5,726         | 5,724         | 5,724         | 5,724         | 5,724         | 5,724         | 4,564         | 0             |
| <b>2022 CPAS</b>              |             | <b>21,227</b>                 | <b>0.820</b> | <b>17,406</b>           | <b>17,406</b> | <b>17,406</b> | <b>17,406</b> | <b>15,248</b> | <b>15,027</b> | <b>14,962</b> | <b>13,101</b> | <b>13,007</b> | <b>13,007</b> | <b>5,736</b>  | <b>5,736</b>  | <b>5,736</b>  | <b>5,736</b>  | <b>5,736</b>  | <b>4,573</b>  | <b>0</b>      |
| <b>Expiring 2022 CPAS</b>     |             |                               |              | <b>0</b>                | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>2,157</b>  | <b>222</b>    | <b>65</b>     | <b>1,861</b>  | <b>94</b>     | <b>0</b>      | <b>7,271</b>  | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>1,163</b>  | <b>4,573</b>  |
| <b>Expired 2022 CPAS</b>      |             |                               |              | <b>0</b>                | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>2,157</b>  | <b>2,379</b>  | <b>2,444</b>  | <b>4,305</b>  | <b>4,398</b>  | <b>4,398</b>  | <b>11,669</b> | <b>11,669</b> | <b>11,670</b> | <b>11,670</b> | <b>11,670</b> | <b>12,833</b> | <b>17,406</b> |
| <b>WAML</b>                   | <b>11.2</b> |                               |              |                         |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |               |

Table 11. Retail Products Initiative Carryover CPAS and WAML

| Evaluation Measure Category              | Measure Life | First-Year Verified Gross MWh | NTGR         | CPAS (Verified Net MWh) |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |          |
|--|--------------|-------------------------------|--------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|
|  |              |                               |              | 2022                    | 2023         | 2024         | 2025         | 2026         | 2027         | 2028         | 2029         | 2030         | 2031         | 2032         | 2033         | 2034         | 2035         | 2036         | 2037         |          |
| 2021 Standard LED - Residential IQ       | 10.0         | 1,540                         | 1.000        | 1,540                   | 1,540        | 1,540        | 1,540        | 1,540        | 1,540        | 1,540        | 1,540        | 1,248        | 1,248        | 1,248        | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 Standard LED - Commercial           | 5.5          | 108                           | 1.000        | 108                     | 108          | 108          | 108          | 108          | 37           | 20           | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 Reflector LED - Residential Non-IQ  | 10.0         | 1,115                         | 0.690        | 769                     | 769          | 769          | 769          | 469          | 469          | 469          | 469          | 469          | 469          | 469          | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 Reflector LED - Residential IQ      | 10.0         | 473                           | 0.897        | 425                     | 425          | 425          | 425          | 425          | 425          | 425          | 310          | 310          | 310          | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 Reflector LED - Commercial          | 6.9          | 228                           | 0.752        | 172                     | 172          | 172          | 172          | 105          | 105          | 96           | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 Specialty LED - Residential Non-IQ  | 10.0         | 1,398                         | 0.690        | 965                     | 965          | 965          | 965          | 675          | 675          | 675          | 675          | 675          | 675          | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 Specialty LED - Residential IQ      | 10.0         | 415                           | 0.798        | 331                     | 331          | 331          | 331          | 331          | 331          | 331          | 222          | 222          | 222          | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 Specialty LED - Commercial          | 4.7          | 261                           | 0.715        | 186                     | 186          | 186          | 186          | 92           | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 LED Fixture - Commercial            | 14.8         | 11                            | 0.999        | 11                      | 11           | 11           | 11           | 7            | 7            | 7            | 7            | 7            | 7            | 7            | 7            | 7            | 7            | 7            | 5            | 0        |
| 2021 LED Outdoor Fixture - Commercial    | 11.6         | 1.1                           | 0.690        | 0.8                     | 0.8          | 0.8          | 0.8          | 0.5          | 0.5          | 0.5          | 0.5          | 0.5          | 0.5          | 0.5          | 0.5          | 0.3          | 0.0          | 0.0          | 0.0          | 0        |
| 2021 LED Nightlight - Residential Non-IQ | 8.0          | 2                             | 0.690        | 1                       | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 LED Nightlight - Residential IQ     | 8.0          | 1                             | 1.000        | 1                       | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 Connected LED - Residential Non-IQ  | 10.0         | 8                             | 0.690        | 6                       | 6            | 6            | 6            | 2            | 2            | 2            | 2            | 2            | 2            | 2            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2021 Connected LED - Residential IQ      | 10.0         | 1.1                           | 0.911        | 1.0                     | 1.0          | 1.0          | 1.0          | 1.0          | 1.0          | 1.0          | 0.8          | 0.8          | 0.8          | 0.0          | 0.0          | 0.0          | 0.0          | 0.0          | 0.0          | 0        |
| 2021 Connected LED - Commercial          | 5.5          | 0.7                           | 0.716        | 0.5                     | 0.5          | 0.5          | 0.5          | 0.2          | 0.1          | 0.0          | 0.0          | 0.0          | 0.0          | 0.0          | 0.0          | 0.0          | 0.0          | 0.0          | 0.0          | 0        |
| 2020 Standard LED - Residential Non-IQ   | 10.0         | 867                           | 0.690        | 598                     | 598          | 598          | 598          | 203          | 203          | 203          | 203          | 203          | 203          | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2020 Standard LED - Residential IQ       | 10.0         | 418                           | 0.690        | 289                     | 289          | 289          | 289          | 289          | 289          | 289          | 234          | 234          | 234          | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2020 Standard LED - Commercial           | 5.5          | 89                            | 0.690        | 62                      | 62           | 62           | 62           | 21           | 11           | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2020 Reflector LED - Residential Non-IQ  | 10.0         | 1,109                         | 0.690        | 765                     | 765          | 765          | 765          | 467          | 467          | 467          | 467          | 467          | 467          | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2020 Reflector LED - Residential IQ      | 10.0         | 672                           | 0.690        | 463                     | 463          | 463          | 463          | 463          | 463          | 463          | 338          | 338          | 338          | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2020 Reflector LED - Commercial          | 6.9          | 253                           | 0.690        | 175                     | 175          | 175          | 175          | 107          | 107          | 98           | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2020 Specialty LED - Residential Non-IQ  | 10.0         | 1,232                         | 0.690        | 850                     | 850          | 850          | 850          | 595          | 595          | 595          | 595          | 595          | 595          | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2020 Specialty LED - Residential IQ      | 10.0         | 721                           | 0.690        | 497                     | 497          | 497          | 497          | 497          | 497          | 497          | 333          | 333          | 333          | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2020 Specialty LED - Commercial          | 4.7          | 278                           | 0.690        | 192                     | 192          | 192          | 192          | 95           | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0        |
| 2020 LED Fixture - Commercial            | 14.8         | 8                             | 0.956        | 8                       | 8            | 8            | 8            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 4            | 0        |
| 2020 LED Outdoor Fixture - Commercial    | 11.6         | 0.06                          | 0.690        | 0.04                    | 0.04         | 0.04         | 0.04         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.01         | 0.00         | 0.00         | 0.00         | 0            | 0        |
| 2021 Efficient Choice - LED Lighting     | 10.0         | 7                             | 0.758        | 5                       | 5            | 5            | 5            | 3            | 3            | 3            | 3            | 3            | 3            | 3            | 0            | 0            | 0            | 0            | 0            | 0        |
| <b>2022 CPAS</b>                         |              | <b>11,217</b>                 | <b>0.751</b> | <b>8,421</b>            | <b>8,421</b> | <b>8,421</b> | <b>8,421</b> | <b>6,432</b> | <b>6,218</b> | <b>6,170</b> | <b>5,115</b> | <b>5,112</b> | <b>5,112</b> | <b>12</b>    | <b>12</b>    | <b>12</b>    | <b>12</b>    | <b>12</b>    | <b>9</b>     | <b>0</b> |
| <b>Expiring 2022 CPAS</b>                |              |                               |              | <b>0</b>                | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>1,990</b> | <b>214</b>   | <b>48</b>    | <b>1,056</b> | <b>3</b>     | <b>0</b>     | <b>5,100</b> | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>2</b>     | <b>9</b> |
| <b>Expired 2022 CPAS</b>                 |              |                               |              | <b>0</b>                | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>1,990</b> | <b>2,203</b> | <b>2,251</b> | <b>3,306</b> | <b>3,309</b> | <b>3,309</b> | <b>8,409</b> | <b>8,409</b> | <b>8,409</b> | <b>8,409</b> | <b>8,412</b> | <b>8,421</b> | <b>0</b> |
| <b>WAML</b>                              |              | <b>9.5</b>                    |              |                         |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |          |



Table 12. Direct Distribution Initiative Carryover CPAS and WAML

| Evaluation Measure Category                   | Measure Life | First-Year Verified Gross MWh | NTGR         | CPAS (Verified Net MWh) |              |              |              |              |              |              |              |              |              |              |
|---|--------------|-------------------------------|--------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|   |              |                               |              | 2022                    | 2023         | 2024         | 2025         | 2026         | 2027         | 2028         | 2029         | 2030         | 2031         | 2032         |
| 2020 School Kits Standard LED                 | 10.0         | 137                           | 1.000        | 137                     | 137          | 137          | 137          | 137          | 137          | 137          | 111          | 111          | 111          | 0            |
| 2020 Appliance Recycling Kits Standard LED    | 10.0         | 7                             | 1.000        | 7                       | 7            | 7            | 7            | 7            | 7            | 7            | 6            | 6            | 6            | 0            |
| 2020 Food Pantry Distribution Standard LED    | 10.0         | 438                           | 1.000        | 438                     | 438          | 438          | 438          | 438          | 438          | 438          | 355          | 355          | 355          | 0            |
| 2020 Community Kit Standard LED               | 10.0         | 12                            | 1.000        | 12                      | 12           | 12           | 12           | 12           | 12           | 12           | 9            | 9            | 9            | 0            |
| 2020 Community Kit ENERGY STAR Desk Lam       | 10.0         | 1                             | 1.000        | 1                       | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 0            |
| 2020 Community Kit 4.5 W Globe                | 10.0         | 2                             | 1.000        | 2                       | 2            | 2            | 2            | 2            | 2            | 2            | 1            | 1            | 1            | 0            |
| 2020 Community Kit 8 W Globe                  | 10.0         | 1                             | 1.000        | 1                       | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 1            | 0            |
| 2021 School Kits Standard LED                 | 10.0         | 183                           | 1.000        | 183                     | 183          | 183          | 183          | 183          | 183          | 183          | 148          | 148          | 148          | 0            |
| 2021 Appliance Recycling Kits Standard LED -  | 10.0         | 26                            | 1.000        | 26                      | 26           | 26           | 26           | 26           | 26           | 26           | 21           | 21           | 21           | 0            |
| 2022 Appliance Recycling Kits Standard LED -  | 10.0         | 36                            | 0.840        | 30                      | 30           | 30           | 30           | 10           | 10           | 10           | 10           | 10           | 10           | 0            |
| 2021 Food Pantry Distribution Standard LED    | 10.0         | 556                           | 1.000        | 556                     | 556          | 556          | 556          | 556          | 556          | 556          | 451          | 451          | 451          | 0            |
| 2021 Food Pantry Distribution LED Nightlights | 10.0         | 91                            | 1.000        | 91                      | 91           | 91           | 91           | 91           | 91           | 91           | 91           | 0            | 0            | 0            |
| 2021 Community Kit Standard LED               | 10.0         | 40                            | 1.000        | 40                      | 40           | 40           | 40           | 40           | 40           | 40           | 32           | 32           | 32           | 0            |
| 2021 Community Kit ENERGY STAR Desk Lam       | 10.0         | 2                             | 1.000        | 2                       | 2            | 2            | 2            | 2            | 2            | 2            | 1            | 1            | 1            | 0            |
| 2021 Community Kit 4.5 W Globe                | 10.0         | 6                             | 1.000        | 6                       | 6            | 6            | 6            | 6            | 6            | 6            | 4            | 4            | 4            | 0            |
| 2021 Community Kit 8 W Globe                  | 10.0         | 5                             | 1.000        | 5                       | 5            | 5            | 5            | 5            | 5            | 5            | 3            | 3            | 3            | 0            |
| <b>2022 CPAS</b>                              |              | <b>1,543</b>                  | <b>0.996</b> | <b>1,538</b>            | <b>1,538</b> | <b>1,538</b> | <b>1,538</b> | <b>1,518</b> | <b>1,518</b> | <b>1,518</b> | <b>1,246</b> | <b>1,155</b> | <b>1,155</b> | <b>0</b>     |
| <b>Expiring 2022 CPAS</b>                     |              |                               |              | <b>0</b>                | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>20</b>    | <b>0</b>     | <b>0</b>     | <b>271</b>   | <b>91</b>    | <b>0</b>     | <b>1,155</b> |
| <b>Expired 2022 CPAS</b>                      |              |                               |              | <b>0</b>                | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>20</b>    | <b>20</b>    | <b>20</b>    | <b>291</b>   | <b>382</b>   | <b>382</b>   | <b>1,538</b> |
| <b>WAML</b>                                   | <b>10.0</b>  |                               |              |                         |              |              |              |              |              |              |              |              |              |              |

Table 13. Income Qualified Initiative Carryover CPAS and WAML

| Evaluation Measure Category                | Measure Life | First-Year Verified Gross MWh | NTGR         | CPAS (Verified Net MWh) |              |              |              |              |              |              |              |              |              |              |              |
|--|--------------|-------------------------------|--------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|  |              |                               |              | 2022                    | 2023         | 2024         | 2025         | 2026         | 2027         | 2028         | 2029         | 2030         | 2031         | 2032         |              |
| 2020 Unverified SAVE Kit 9W LED A19        | 10.0         | 241                           | 1.000        | 241                     | 241          | 241          | 241          | 241          | 241          | 241          | 241          | 195          | 195          | 195          | 0            |
| 2020 Unverified SAVE Kit 6W LED G25        | 10.0         | 141                           | 1.000        | 141                     | 141          | 141          | 141          | 141          | 141          | 141          | 141          | 94           | 94           | 94           | 0            |
| 2020 Unverified SAVE Kit 8W LED BR30       | 10.0         | 118                           | 1.000        | 118                     | 118          | 118          | 118          | 118          | 118          | 118          | 118          | 86           | 86           | 86           | 0            |
| 2020 Left SAVE Kit 9W LED A19              | 10.0         | 2                             | 1.000        | 2                       | 2            | 2            | 2            | 2            | 2            | 2            | 2            | 2            | 2            | 2            | 0            |
| 2020 Left SAVE Kit 6W LED G25              | 10.0         | 3                             | 1.000        | 3                       | 3            | 3            | 3            | 3            | 3            | 3            | 3            | 2            | 2            | 2            | 0            |
| 2020 Left SAVE Kit 8W LED BR30             | 10.0         | 4                             | 1.000        | 4                       | 4            | 4            | 4            | 4            | 4            | 4            | 4            | 3            | 3            | 3            | 0            |
| 2020 BN Community Kit 9W LED A-Lamp        | 10.0         | 0                             | 1.000        | 0                       | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            |
| 2020 BN Community Kit 8W LED BR30          | 10.0         | 0                             | 1.000        | 0                       | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            |
| 2020 BN Community Kit 5.5W LED A-Lamp      | 10.0         | 0                             | 1.000        | 0                       | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            |
| 2021 Unverified SAVE Kit - 9W LED          | 10.0         | 243                           | 1.000        | 243                     | 243          | 243          | 243          | 243          | 243          | 243          | 243          | 197          | 197          | 197          | 0            |
| 2021 Unverified SAVE Kit - 6W LED          | 10.0         | 142                           | 1.000        | 142                     | 142          | 142          | 142          | 142          | 142          | 142          | 142          | 95           | 95           | 95           | 0            |
| 2021 Unverified SAVE Kit - 8W LED          | 10.0         | 119                           | 1.000        | 119                     | 119          | 119          | 119          | 119          | 119          | 119          | 119          | 87           | 87           | 87           | 0            |
| 2021 Unverified SAVE Kit (No APS) - 9W LED | 10.0         | 143                           | 1.000        | 143                     | 143          | 143          | 143          | 143          | 143          | 143          | 143          | 116          | 116          | 116          | 0            |
| 2021 Unverified SAVE Kit (No APS) - 6W LED | 10.0         | 84                            | 1.000        | 84                      | 84           | 84           | 84           | 84           | 84           | 84           | 84           | 56           | 56           | 56           | 0            |
| 2021 Unverified SAVE Kit (No APS) - 8W LED | 10.0         | 70                            | 1.000        | 70                      | 70           | 70           | 70           | 70           | 70           | 70           | 70           | 51           | 51           | 51           | 0            |
| 2021 Verified SAVE Kit - Standard LED      | 10.0         | 19                            | 1.000        | 19                      | 19           | 19           | 19           | 19           | 19           | 19           | 19           | 15           | 15           | 15           | 0            |
| 2021 Verified SAVE Kit - Specialty LED     | 10.0         | 11                            | 1.000        | 11                      | 11           | 11           | 11           | 11           | 11           | 11           | 11           | 7            | 7            | 7            | 0            |
| 2021 Verified SAVE Kit - Reflector LED     | 10.0         | 9                             | 1.000        | 9                       | 9            | 9            | 9            | 9            | 9            | 9            | 9            | 7            | 7            | 7            | 0            |
| <b>2022 CPAS</b>                           |              | <b>1,349</b>                  | <b>1.000</b> | <b>1,349</b>            | <b>1,349</b> | <b>1,349</b> | <b>1,349</b> | <b>1,349</b> | <b>1,349</b> | <b>1,349</b> | <b>1,349</b> | <b>1,014</b> | <b>1,014</b> | <b>1,014</b> | <b>0</b>     |
| <b>Expiring 2022 CPAS</b>                  |              |                               |              | <b>0</b>                | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>335</b>   | <b>0</b>     | <b>0</b>     | <b>1,014</b> |
| <b>Expired 2022 CPAS</b>                   |              |                               |              | <b>0</b>                | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>335</b>   | <b>335</b>   | <b>335</b>   | <b>1,349</b> |
| <b>WAML</b>                                | <b>10.0</b>  |                               |              |                         |              |              |              |              |              |              |              |              |              |              |              |

Table 14. Midstream Lighting Carryover CPAS and WAML

| Evaluation Measure Category | Measure Life | First-Year Verified Gross MWh | NTGR         | CPAS (Verified Net MWh) |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |   |
|-----------------------------|--------------|-------------------------------|--------------|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---|
|                             |              |                               |              | 2022                    | 2023         | 2024         | 2025         | 2026         | 2027         | 2028         | 2029         | 2030         | 2031         | 2032         | 2033         | 2034         | 2035         | 2036         | 2037         |              |   |
| 2020 Linear LED             | 14.8         | 2,619                         | 0.916        | 2,400                   | 2,400        | 2,400        | 2,400        | 2,400        | 2,400        | 2,400        | 2,400        | 2,400        | 2,400        | 2,400        | 2,400        | 2,400        | 2,400        | 2,400        | 1,913        | 0            |   |
| 2020 Mogul                  | 14.8         | 271                           | 0.916        | 248                     | 248          | 248          | 248          | 248          | 248          | 248          | 248          | 248          | 248          | 248          | 248          | 248          | 248          | 248          | 248          | 198          | 0 |
| 2020 Specialty LED          | 8.4          | 122                           | 0.916        | 112                     | 112          | 112          | 112          | 68           | 66           | 61           | 1            | 1            | 1            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0 |
| 2021 Linear LED             | 14.8         | 3,559                         | 0.813        | 2,894                   | 2,894        | 2,894        | 2,894        | 2,894        | 2,894        | 2,894        | 2,894        | 2,894        | 2,894        | 2,894        | 2,894        | 2,894        | 2,894        | 2,894        | 2,308        | 0            |   |
| 2021 Mogul                  | 14.8         | 224                           | 0.813        | 182                     | 182          | 182          | 182          | 182          | 182          | 182          | 182          | 182          | 182          | 182          | 182          | 182          | 182          | 182          | 145          | 0            |   |
| 2021 Specialty LED          | 8.3          | 322                           | 0.813        | 262                     | 262          | 262          | 262          | 158          | 151          | 140          | 1            | 1            | 1            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0 |
| <b>2022 CPAS</b>            |              | <b>7,117</b>                  | <b>0.857</b> | <b>6,098</b>            | <b>6,098</b> | <b>6,098</b> | <b>6,098</b> | <b>5,950</b> | <b>5,942</b> | <b>5,925</b> | <b>5,726</b> | <b>5,726</b> | <b>5,726</b> | <b>5,724</b> | <b>5,724</b> | <b>5,724</b> | <b>5,724</b> | <b>4,564</b> | <b>0</b>     |              |   |
| <b>Expiring 2022 CPAS</b>   |              |                               |              | <b>0</b>                | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>148</b>   | <b>8</b>     | <b>17</b>    | <b>199</b>   | <b>0</b>     | <b>0</b>     | <b>2</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>1,160</b> | <b>4,564</b> |   |
| <b>Expired 2022 CPAS</b>    |              |                               |              | <b>0</b>                | <b>0</b>     | <b>0</b>     | <b>0</b>     | <b>148</b>   | <b>156</b>   | <b>173</b>   | <b>372</b>   | <b>372</b>   | <b>372</b>   | <b>373</b>   | <b>373</b>   | <b>373</b>   | <b>373</b>   | <b>373</b>   | <b>1,534</b> | <b>6,098</b> |   |
| <b>WAML</b>                 | <b>14.4</b>  |                               |              |                         |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |   |