

## U.S. Light Fixture Manufacturing in the LED Illumination Era

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*The U.S. light fixture<sup>1</sup> market significantly expanded after 2010, driven by the economic recovery and demand for more efficient light-emitting diode (LED) products. U.S. manufacturers transitioned to LED products and increased production and employment, but they also consolidated and closed plants, lost market share and faced pricing pressures from imports.*

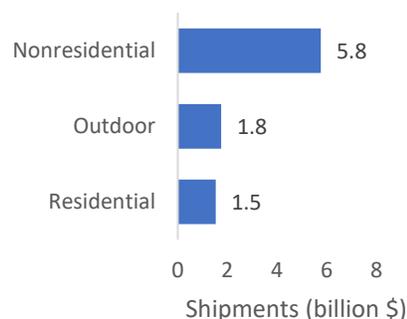
### U.S. light fixture demand rapidly increased during 2010–18<sup>2</sup>

U.S. light fixture demand increased from about \$10 billion in 2010 to more than \$18 billion in 2018.<sup>3</sup> The market rapidly shifted from traditional incandescent and fluorescent luminaires (fixtures incorporating a bulb or tube) to more energy efficient LED luminaires. LED luminaires surpassed 50 percent of U.S. light fixture sales in 2016, and by 2018–19 major lighting suppliers such as Acuity and Cooper (a subsidiary of Signify) derived most of their U.S. luminaire revenue from LED products.<sup>4</sup> The shift to LEDs is the first of multiple lighting transitions, with connected (also known as “networked”) lighting demand expected to significantly increase in the next decade.

### U.S. light fixture manufacturing industry and the LED transition

There is a large U.S. light fixture manufacturing industry, with \$9.0 billion in 2017 shipments and about 35,000 employees in 2019. Nonresidential light fixtures accounted for the largest share of product shipments in 2017, followed by outdoor and residential fixtures (figure 1).<sup>5</sup> The U.S. manufacturing industry includes a variety of firm types, including large, publicly traded multinationals, large private firms, and small and medium-sized enterprises (SMEs). SMEs play a significant role, accounting for 98 percent of residential manufacturing firms in 2017, 52 percent of employment, and 39 percent of receipts. Among nonresidential firms, SMEs accounted for 97 percent of firms, 64 percent of employment, and 62 percent of receipts. The four largest firms accounted for 71 percent of residential sector receipts, but the nonresidential industry is less concentrated—the 20 largest firms accounted for only 53 percent of receipts.<sup>6</sup>

**Figure 1:** U.S. light fixture shipments, by application, 2017



Source: Census Bureau, [Annual Survey of Manufacture \(ASM\)](#).

The U.S. industry has largely transitioned to LED fixtures, which accounted for a substantial share of 2019 production. During the period of transition to LED technology, which started at a relatively low level of U.S. production in 2010, just after the recession, there were increases in the number of establishments, employment (except outdoor/other), wages, shipments, exports (except nonresidential), and value added (figure 2). However, this was also a period of transition for the U.S. industry, with major lighting firms

<sup>1</sup> This EBOT covers residential (NAICS 335121), commercial, industrial, and institutional (NAICS 335122, referred to here as “nonresidential”), and other outdoor (a subset of NAICS 335129) light fixture manufacturing. It covers both fixtures without a lamp (light bulb or tube) and luminaires (fixtures incorporating lamps). It does not cover separate lamps (light bulbs and tubes).

<sup>2</sup> This analysis starts in 2010, the last year LED luminaires were below 10 percent of global sales. CSIL, “[The LED](#),” Nov 6, 2018.

<sup>3</sup> Some statistical reporting numbers in the Harmonized Tariff Schedule (HTS) include both fixtures and other products, so these data may slightly overstate the market size. Census Bureau, [ASM](#); USITC [DataWeb](#)/USDOC.

<sup>4</sup> CSIL, [LED Lighting](#), Dec 12, 2017; Acuity, [Q4 2018 Earnings Call](#); Signify, Investor Presentation, Apr–Jun 2020, 30.

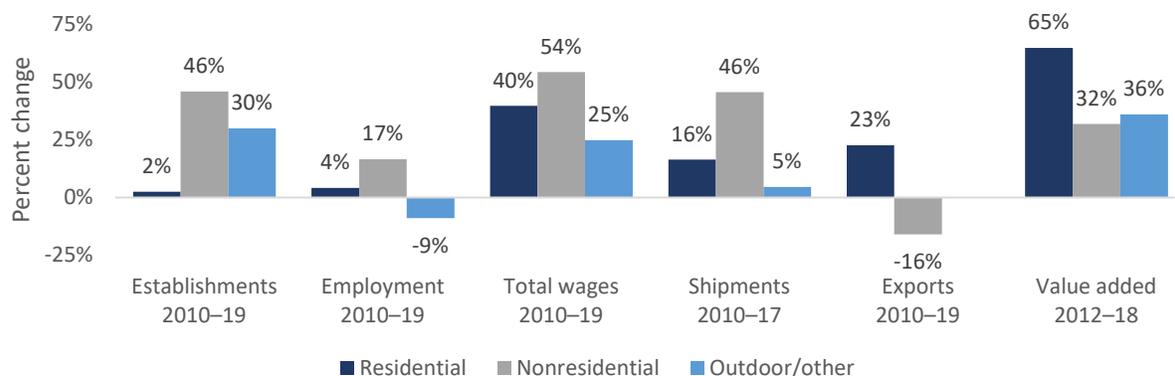
<sup>5</sup> 2019 employment data for the outdoor lighting fixture industry segment is estimated based on BLS and Census data. BLS, [Quarterly Census of Employment and Wages \(QCEW\)](#); Census Bureau, [ASM](#).

<sup>6</sup> Some SMEs were acquired by larger firms during 2010–19. Census, [Statistics of U.S. Businesses](#) and [Economic Census](#).

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consolidating U.S. plant production and relocating some manufacturing—particularly to Mexico.<sup>7</sup> Further, employment declined in 2019 amid weak demand and in the first half of 2020 due to the recession.<sup>8</sup>

**Figure 2: Performance of the U.S. industry, 2010–19 (unless otherwise noted)**



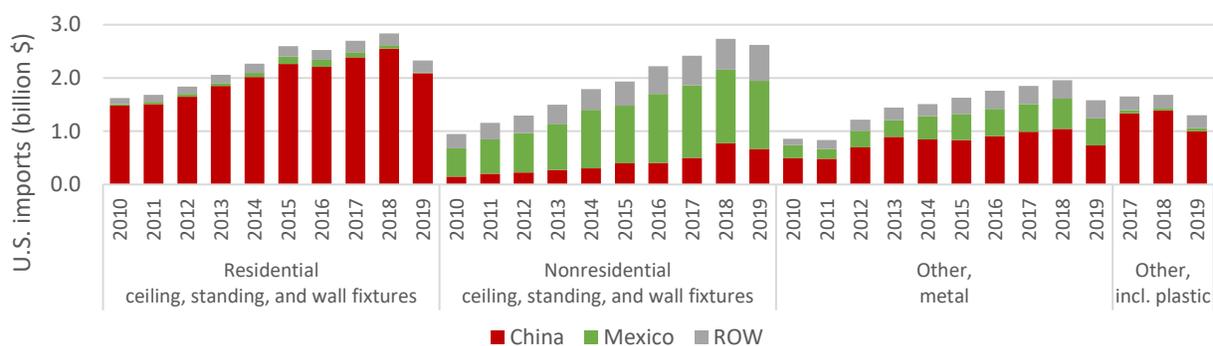
Source: BLS, [QCEW](#); Census Bureau, [ASM](#).

Note: Establishment, employment, wage, and value added data for outdoor fixtures includes all NAICS 335129. Trade data for outdoor fixtures are not available. Residential/nonresidential exports are based on HTS 9405.10–9405.20.

### Pricing pressure and market share declines

U.S. import growth outpaced the increase in domestic production, and manufacturers reported significant pricing pressures from imports.<sup>9</sup> U.S. imports of residential light fixtures increased by 43 percent during 2010–19, imports of nonresidential fixtures increased by 176 percent, and imports of other metal fixtures rose by 84 percent.<sup>10</sup> The strong growth in imports was primarily driven by China and Mexico, with China dominating residential imports and China and Mexico (where many of the largest firms serving this sector have relocated some U.S. production) both substantially increasing exports of nonresidential fixtures. Overall, the share of the market accounted for by domestic production declined during 2010–17.<sup>11</sup>

**Figure 2: U.S. light fixture imports, by type and source, 2010–19**



Source: USITC [DataWeb](#)/USDOC.

Notes: Incl: including. Data are general imports. Data in the other categories may include some products not covered in this EBOT. “Other, incl. plastic” is only shown from 2017 when more specific statistical reporting numbers were available.

<sup>7</sup> For example: Queen, Alice, “[Cochran](#),” Mar 12, 2012; Surratt, John, “[Eaton](#),” Jul 20, 2017; *Courier Times*, “[Hubbell](#),” May 19, 2017; Henry, Bryan, “[Eufala](#),” Jun 28, 2013; lightED, “[LSI](#),” Oct 31, 2018; Miller, Jayne W., “[Philips Closing](#),” Dec 2, 2012; Lin, “[Philips Shuts](#),” Dec 14, 2015; Ohnesorge, Lauren, “[Lighting](#),” Dec 7, 2015; Clark, Liz Engel, “[Sparta Lighting](#),” Mar 2, 2012.

<sup>8</sup> Firms reported lower sales in Q2–Q3 2020. BLS, [QCEW](#); BLS, [MFP](#); Electrical Trends, “[Q2 Pulse](#),” Jun 30, 2020; Acuity, [Q3 2020 Earnings](#); USITC [DataWeb](#)/USDOC; Acuity, [Q4 2019 Earnings](#); Census, [Value of Construction](#); Electrical Trends, [Q3](#), Sep 29, 2020.

<sup>9</sup> Acuity, [Q4 2018 Earnings Call](#); Electrical Trends, “[Q1 Pulse](#),” Apr 4, 2019 and “[Q1 2018 Pulse](#),” Mar 20, 2018.

<sup>10</sup> Light fixture imports from China were subject to Section 301 duties as of September 24, 2018.

<sup>11</sup> USITC [DataWeb](#)/USDOC; Census Bureau, [ASM](#).

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