



AMERICAN SOCIETY OF HOME INSPECTORS

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ASHI Position Statement January 2024

To Whom It May Concern:

Since our founding in 1976, The American Society of Home Inspectors (ASHI) has embraced the highest standards of integrity, ethical conduct, and professionalism. ASHI is a not-for-profit professional association of approximately 7,000 members throughout North America. ASHI Certified Inspectors are the only true 3rd party certified inspectors in the industry that are accredited by the National Commission for Certifying Agencies (NCAA)

As a professional association, we encourage our members to comply with federal, state, and local laws. ASHI, many other governmental leaders, and the general public consider home inspections an essential part of the real estate sale process. The U. S. Department of Housing and Urban Development (HUD) recommends that buyers of all houses have a professional home inspection performed. Home inspections focus on numerous health and safety issues.

They also play a vital role in identifying defective components and systems in the homes in your state, including the electrical systems of the house. The ASHI Standard of Practice (SOP) in section 7 Electrical lists the following:

1. *Inspect:*
 1. Service drop.
 2. Service entrance conductors, cables, and raceways.
 3. Service equipment and main disconnects.
 4. Service grounding.
 5. Interior *components* of service panels and subpanels.
 6. Conductors.
 7. Overcurrent protection devices.
 8. A *representative number of installed* lighting fixtures, switches, and receptacles.
 9. Ground fault circuit interrupters and arc fault circuit interrupters.
2. *Describe:*
 1. The amperage rating of the service.
 2. Location of main disconnect(s) and subpanels.
 3. Presence or absence of smoke alarms and carbon monoxide alarms.



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4. The predominant branch circuit *wiring method*.

Home Inspectors should be allowed to open covers of electrical panels as part of the Home Inspection process to fulfill the obligation to inspect the interior components of service panels and subpanels as described. Preventing home inspectors from opening panelboards to examine the wiring, grounding, OCP, and bonding opens the possibility of serious issues, up to and including property loss and even death. (See attached NFPA tables and Research).

The same holds for testing receptacle outlets with devices made for this purpose. This testing reveals electrical defects such as reversed polarity, open/no equipment ground, and possibly a false (or "bootleg") ground, all of which can be a shock hazard.

The testing of AFCI and GFCI devices for proper operation is also paramount, as a failed GFCI increases shock hazards, and a faulty AFCI increases the risk of a fire.

The Home Inspection is done as a service and for the protection of the client in the home. The inspectors refer the issue for further evaluation and repair as necessary to the respective trade when observed. In this case, electricians would be referred by the inspector.

ASHI strongly believes that it is in the best interests of those buying a house that the Rhode Island Home Inspector Standard of Practice be honored and not be confused with other state statutes or interests – even with the best intentions. This includes qualified home inspectors examining electrical components and systems in the home.

Respectfully submitted,

Mark Goodman
ASHI President 2024

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ASHI President 2023

American Society of Home Inspectors (ASHI)



RESEARCH

Home Electrical Fires **Supporting Tables**

March 2019

Richard Campbell

Home Electrical Fires: Supporting Tables

The tables in this document are a companion to the report of the same name. Firefighter deaths and injuries are excluded from this analysis.

Most tables, with the exception of fires by year, show estimates of 2012-2016 annual averages. Estimates were derived from the U.S. Fire Administration's National Fire Incident Reporting System (NFIRS) and NFPA's annual fire department experience survey and include proportional shares of unknown or missing data. Fires are rounded to the nearest 100, deaths and injuries are rounded to the nearest ten, and property loss is rounded to the nearest million dollars. Inflation adjustments were made only for the trend table. Percentages were calculated on unrounded estimates.

NFIRS 5.0 includes a category of structure fires collectively referred to as "confined fires," identified by NFIRS incident type codes 113-118. These include confined cooking fires, confined chimney or flue fires, confined trash fires, and confined fuel burner or boiler fires. Losses are generally minimal in these fires, which by definition, are assumed to have been limited to the object of origin. Although causal data is not required for these fires, it is sometimes present. To obtain estimates of fires, unknown data for confined and non-confined fires were analyzed separately and the results summed.

For more information on how these estimates were calculated, please see [full report](#) and [How NFPA's National Estimates Are Calculated for Home Structure Fires](#)

List of Tables

Table	Home Electrical Fires	Page
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition by:		
Table 1.	Year	2
Table 2.	Month	4
Table 3.	Day of Week	5
Table 4.	Time of Day	6
Table 5.	Equipment Involved in Ignition	7
Table 6.	Cause of Ignition	8
Table 7.	Heat Source	9
Table 8.	Area of Origin	10
Table 9.	Item First Ignited	12
Home Fires Involving Electrical Distribution and Lighting Equipment by:		
Table 10.	Year	14
Table 11.	Month	16
Table 12.	Day of Week	17
Table 13.	Time of Day	18
Table 14.	Equipment Involved in Ignition	19
Table 15.	Cause of Ignition	20
Table 16.	Factor Contributing to Ignition	21
Table 17.	Heat Source	26
Table 18.	Area of Origin	27
Table 19.	Item First Ignited	32

Table 1.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition, by Year
Structure Fires Reported to U.S. Fire Departments

Year	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)			
							As Reported		In 2016 Dollars	
1980	75,000		471		1,500		\$426		\$1,227	
1981	70,000		477		1,670		\$409		\$1,064	
1982	66,500		405		1,760		\$450		\$1,104	
1983	63,700		463		1,750		\$530		\$1,260	
1984	63,960		328		1,440		\$551		\$1,255	
1985	67,000		451		1,600		\$603		\$1,326	
1986	65,200		639		1,640		\$600		\$1,298	
1987	65,500		562		1,880		\$616		\$1,285	
1988	68,500		545		2,190		\$745		\$1,494	
1989	64,300		590		2,000		\$693		\$1,325	
1990	62,300		435		2,000		\$737		\$1,338	
1991	65,700		393		2,370		\$981		\$1,706	
1992	62,800		486		2,270		\$727		\$1,228	
1993	65,500		485		2,540		\$936		\$1,535	
1994	64,300		518		2,160		\$835		\$1,336	
1995	61,800		582		2,110		\$867		\$1,348	
1996	63,400		593		2,070		\$1,031		\$1,559	
1997	60,600		380		1,790		\$980		\$1,447	
1998	57,900		479		1,820		\$943		\$1,372	
1999	46,000	(44,300)	387	(387)	1,620	(1,620)	\$917	(\$917)	\$1,319	(\$1,319)
2000	49,200	(46,400)	348	(348)	1,670	(1,670)	\$1,085	(\$1,082)	\$1,512	(\$1,508)
2001	53,600	(49,200)	548	(548)	1,680	(1,630)	\$1,237	(\$1,235)	\$1,676	(\$1,673)
2002	54,300	(49,300)	278	(278)	1,290	(1,290)	\$1,183	(\$1,181)	\$1,577	(\$1,575)
2003	51,100	(45,200)	639	(639)	1,350	(1,350)	\$1,283	(\$1,281)	\$1,674	(\$1,671)
2004	52,500	(46,400)	614	(614)	1,500	(1,490)	\$1,360	(\$1,357)	\$1,729	(\$1,725)
2005	50,100	(44,500)	438	(438)	1,360	(1,340)	\$1,530	(\$1,522)	\$1,879	(\$1,869)
2006	50,500	(45,100)	333	(333)	1,370	(1,360)	\$1,390	(\$1,389)	\$1,653	(\$1,652)
2007	50,700	(45,500)	451	(451)	1,640	(1,630)	\$1,228	(\$1,227)	\$1,419	(\$1,418)
2008	49,400	(44,800)	519	(519)	1,350	(1,320)	\$1,633	(\$1,632)	\$1,821	(\$1,820)
2009	44,800	(39,500)	472	(472)	1,500	(1,470)	\$1,644	(\$1,643)	\$1,837	(\$1,836)
2010	46,500	(42,000)	419	(419)	1,520	(1,510)	\$1,507	(\$1,506)	\$1,659	(\$1,658)
2011	47,700	(42,600)	418	(418)	1,570	(1,570)	\$1,434	(\$1,432)	\$1,530	(\$1,528)
2012	40,900	(35,300)	359	(359)	1,410	(1,390)	\$1,310	(\$1,309)	\$1,370	(\$1,368)
2013	46,000	(39,900)	419	(419)	1,220	(1,200)	\$1,370	(\$1,368)	\$1,410	(\$1,408)
2014	48,100	(41,200)	538	(538)	1,280	(1,270)	\$1,387	(\$1,385)	\$1,404	(\$1,402)
2015	47,100	(40,700)	435	(435)	1,240	(1,240)	\$1,463	(\$1,460)	\$1,480	(\$1,478)
2016	45,300	(38,700)	480	(480)	1,260	(1,230)	\$1,005	(\$1,003)	\$1,005	(\$1,003)

Table 1.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition, by Year
Structure Fires Reported to U.S. Fire Departments (Continued)

Note: Figures in parentheses exclude confined fires, which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. These are national estimates of fires reported to U.S. municipal fire departments and so exclude fires reported to only federal or state agencies or industrial fire brigades. National estimates are projections. Casualty and loss projections can be heavily influenced by the inclusion or exclusion of a small number of unusually serious fires. Fires are rounded to the nearest hundred, civilian deaths to the nearest one, civilian injuries to the nearest ten, and direct property damage to the nearest million dollars. Figures for 1980-1998 are based on ignition factor 54-55 and reflect a proportional share of home fires with ignition factor unknown, unreported, none, or blank. Figures for 1999 and later years reflect a proportional share of home fires with factor contributing to ignition as unknown, reported, none, or blank. Because of low participation in NFIRS Version 5.0 during 1999-2001, estimates for these years are highly uncertain and must be used with caution. Inflation adjustment to 2014 dollars is calculated using the Consumer Price Index. Home fire property damage figures for 1991 are inflated by estimation problems related to the Oakland fire storm.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 2.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition, by Month
2012-2016 Annual Averages

Month	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)
January	5,020	(11%)	70	(16%)	140	(11%)	\$160	(13%)
February	4,040	(9%)	40	(8%)	110	(9%)	\$125	(10%)
March	3,720	(8%)	40	(9%)	130	(10%)	\$110	(9%)
April	3,360	(7%)	40	(9%)	100	(8%)	\$102	(8%)
May	3,380	(8%)	30	(6%)	100	(8%)	\$90	(7%)
June	3,500	(8%)	20	(5%)	100	(8%)	\$96	(7%)
July	3,750	(8%)	40	(8%)	90	(7%)	\$111	(9%)
August	3,330	(7%)	20	(5%)	110	(9%)	\$89	(7%)
September	3,030	(7%)	30	(6%)	70	(6%)	\$77	(6%)
October	3,220	(7%)	40	(9%)	80	(7%)	\$85	(7%)
November	4,030	(9%)	20	(6%)	90	(7%)	\$110	(9%)
December	4,510	(10%)	50	(12%)	120	(9%)	\$124	(10%)
Total	44,880	(100%)	440	(100%)	1,250	(100%)	\$1,278	(100%)

Note: Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 3.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition, by Day of Week
2012-2016 Annual Averages

Day of Week	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Sunday	6,480	(14%)	50	(11%)	200	(16%)	\$177	(14%)
Monday	6,400	(14%)	80	(19%)	150	(12%)	\$189	(15%)
Tuesday	6,370	(14%)	40	(10%)	210	(16%)	\$177	(14%)
Wednesday	6,300	(14%)	70	(16%)	160	(12%)	\$180	(14%)
Thursday	6,400	(14%)	60	(13%)	160	(13%)	\$189	(15%)
Friday	6,310	(14%)	70	(15%)	200	(16%)	\$182	(14%)
Saturday	6,620	(15%)	70	(17%)	180	(14%)	\$184	(14%)
Totals	44,880	(100%)	440	(100%)	1,250	(100%)	\$1,278	(100%)

Note: Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 4.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition, by Time of Day
2012-2016 Annual Averages

Time of Day	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Midnight-12:59 a.m.	1,390	(3%)	20	(6%)	50	(4%)	\$49	(4%)
1:00-1:59 a.m.	1,220	(3%)	50	(11%)	70	(5%)	\$46	(4%)
2:00-2:59 a.m.	1,210	(3%)	40	(8%)	60	(5%)	\$49	(4%)
3:00-3:59 a.m.	1,170	(3%)	40	(9%)	70	(6%)	\$58	(5%)
4:00-4:59 a.m.	1,100	(2%)	30	(7%)	50	(4%)	\$43	(3%)
5:00-5:59 a.m.	1,060	(2%)	30	(6%)	60	(5%)	\$40	(3%)
6:00-6:59 a.m.	1,240	(3%)	30	(6%)	50	(4%)	\$39	(3%)
7:00-7:59 a.m.	1,440	(3%)	30	(6%)	50	(4%)	\$46	(4%)
8:00-8:59 a.m.	1,570	(4%)	10	(3%)	50	(4%)	\$44	(3%)
9:00-9:59 a.m.	1,790	(4%)	10	(2%)	40	(3%)	\$50	(4%)
10:00-10:59 a.m.	1,860	(4%)	20	(4%)	50	(4%)	\$47	(4%)
11:00-11:59 a.m.	2,060	(5%)	10	(2%)	40	(3%)	\$61	(5%)
12:00-12:59 p.m.	2,200	(5%)	10	(2%)	50	(4%)	\$61	(5%)
1:00-1:59 p.m.	2,220	(5%)	0	(1%)	40	(3%)	\$63	(5%)
2:00-2:59 p.m.	2,270	(5%)	10	(1%)	40	(3%)	\$59	(5%)
3:00-3:59 p.m.	2,450	(5%)	10	(1%)	50	(4%)	\$66	(5%)
4:00-4:59 p.m.	2,570	(6%)	10	(2%)	60	(5%)	\$68	(5%)
5:00-5:59 p.m.	2,730	(6%)	10	(3%)	50	(4%)	\$58	(5%)
6:00-6:59 p.m.	2,840	(6%)	10	(3%)	70	(5%)	\$62	(5%)
7:00-7:59 p.m.	2,600	(6%)	10	(2%)	50	(4%)	\$56	(4%)
8:00-8:59 p.m.	2,320	(5%)	10	(2%)	70	(6%)	\$56	(4%)
9:00-9:59 p.m.	2,130	(5%)	10	(3%)	40	(3%)	\$51	(4%)
10:00-10:59 p.m.	1,840	(4%)	20	(5%)	50	(4%)	\$55	(4%)
11:00-11:59 p.m.	1,600	(4%)	10	(2%)	50	(4%)	\$51	(4%)
Total	44,880	(100%)	440	(100%)	1,250	(100%)	\$1,278	(100%)

Note: Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 5.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition
by Equipment Involved in Ignition, 2012-2016 Annual Averages

Equipment Involved	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Electrical distribution and lighting equipment	22,620	(50%)	310	(71%)	700	(56%)	\$786	(62%)
Wiring and related equipment	17,600	(39%)	190	(43%)	440	(35%)	\$588	(46%)
Cord or plug	2,080	(5%)	100	(23%)	130	(11%)	\$85	(7%)
Lamp, bulb or lighting	1,850	(4%)	10	(3%)	70	(5%)	\$64	(5%)
Transformers and power supplies	1,080	(2%)	10	(2%)	60	(5%)	\$49	(4%)
Cooking equipment	6,780	(15%)	10	(1%)	110	(9%)	\$43	(3%)
Confined cooking fire	4,820	(11%)	0	(0%)	10	(1%)	\$1	(0%)
Range with or without oven, cooking surface	960	(2%)	0	(1%)	50	(4%)	\$18	(1%)
Microwave oven	430	(1%)	0	(0%)	20	(1%)	\$10	(1%)
Portable cooking or warming equipment	230	(1%)	0	(0%)	20	(2%)	\$8	(1%)
Other known cooking equipment	340	(1%)	0	(0%)	10	(1%)	\$6	(1%)
Heating equipment	3,830	(9%)	30	(8%)	60	(5%)	\$80	(6%)
Fixed or portable space heater	1,300	(3%)	30	(6%)	40	(3%)	\$46	(4%)
Water heater	1,020	(2%)	0	(0%)	10	(1%)	\$16	(1%)
Confined fuel burner or boiler fire	730	(2%)	0	(0%)	0	(0%)	\$0	(0%)
Central heat	350	(1%)	0	(0%)	0	(0%)	\$9	(1%)
Other known heating equipment	430	(1%)	7	(2%)	5	(0%)	\$9	(1%)
Fan	2,480	(6%)	10	(3%)	70	(6%)	\$62	(5%)
Air conditioner	1,460	(3%)	20	(5%)	60	(5%)	\$41	(3%)
Clothes dryer	1,450	(3%)	0	(0%)	30	(3%)	\$32	(2%)
No equipment involved in ignition	890	(2%)	10	(3%)	10	(1%)	\$56	(4%)
Unclassified equipment involved in ignition	800	(2%)	0	(1%)	30	(2%)	\$36	(3%)
Refrigerator or refrigerator/freezer	560	(1%)	10	(1%)	40	(3%)	\$21	(2%)
Dishwasher	400	(1%)	0	(0%)	10	(1%)	\$9	(1%)
Television	390	(1%)	0	(0%)	20	(2%)	\$15	(1%)
Confined incinerator overload or malfunction fire	290	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Contained trash or rubbish fire	280	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Other known equipment involved in ignition	2,650	(6%)	30	(7%)	100	(8%)	\$96	(8%)
Total	44,880	(100%)	440	(100%)	1,250	(100%)	\$1,278	(100%)

Note: Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 6.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition
by Cause of Ignition, 2012-2016 Annual Averages**

Cause of Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Failure of equipment or heat source	23,500	(52%)	190	(43%)	590	(47%)	\$536	(42%)
Non-confined	19,370	(43%)	190	(43%)	590	(47%)	\$535	(42%)
Confined	4,130	(9%)	0	(0%)	0	(0%)	\$1	(0%)
Unintentional	20,680	(46%)	250	(57%)	650	(52%)	\$724	(57%)
Non-confined	18,640	(42%)	250	(57%)	640	(51%)	\$723	(57%)
Confined	2,050	(5%)	0	(0%)	10	(1%)	\$1	(0%)
Act of nature	369	(1%)	0	(0%)	0	(0%)	\$9	(1%)
Non-confined	341	(2%)	0	(0%)	0	(1%)	\$9	(2%)
Confined	28	(4%)	0	(0%)	0	(0%)	\$0	(3%)
Other causes	323	(1%)	0	(0%)	10	(1%)	\$9	(1%)
Non-confined	250	(1%)	0	(1%)	10	(1%)	\$9	(2%)
Confined	72	(11%)	0	(0%)	0	(0%)	\$0	(3%)
Total	44,880	(100%)	440	(100%)	1,250	(100%)	\$1,278	(100%)
Non-confined	38,600	(86%)	440	(100%)	1,230	(98%)	\$1,276	(100%)
Confined	6,270	(14%)	0	(0%)	10	(1%)	\$2	(0%)

Note: Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 7.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition, by Heat Source
2012-2016 Annual Averages

Heat Source	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Arcing	27,290	(61%)	300	(69%)	770	(62%)	\$785	(61%)
Non-confined	24,530	(55%)	300	(69%)	770	(61%)	\$784	(61%)
Confined	2,760	(6%)	0	(0%)	0	(0%)	\$1	(0%)
Unclassified heat from powered equipment	6,750	(15%)	50	(12%)	210	(17%)	\$170	(13%)
Non-confined	5,300	(12%)	50	(12%)	210	(17%)	\$170	(13%)
Confined	1,450	(3%)	0	(0%)	10	(1%)	\$0	(0%)
Radiated or conducted heat from operating equipment	2,460	(5%)	20	(5%)	70	(6%)	\$54	(4%)
Non-confined	1,770	(4%)	20	(5%)	70	(5%)	\$54	(4%)
Confined	690	(2%)	0	(0%)	0	(0%)	\$0	(0%)
Spark, ember or flame from operating equipment	2,460	(5%)	10	(3%)	80	(6%)	\$61	(5%)
Non-confined	1,810	(4%)	10	(3%)	80	(6%)	\$61	(5%)
Confined	650	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Unclassified heat source	2,280	(5%)	30	(6%)	60	(5%)	\$88	(7%)
Non-confined	1,980	(4%)	30	(6%)	60	(5%)	\$88	(7%)
Confined	300	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Unclassified hot or smoldering object	1,970	(4%)	20	(4%)	30	(2%)	\$68	(5%)
Non-confined	1,780	(4%)	20	(4%)	20	(2%)	\$68	(5%)
Confined	180	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Other known heat source	1,680	(4%)	10	(1%)	30	(2%)	\$51	(4%)
Non-confined	1,430	(3%)	10	(1%)	30	(2%)	\$51	(4%)
Confined	240	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Total	44,880	(100%)	440	(100%)	1,250	(100%)	\$1,278	(100%)
Non-confined	38,600	(86%)	440	(100%)	1,230	(99%)	\$1,276	(100%)
Confined	6,270	(14%)	0	(0%)	10	(1%)	\$2	(0%)

Note: Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 8.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition
by Area of Origin, 2012-2016 Annual Averages

Area of Origin	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Kitchen or cooking area	9,000	(20%)	40	(9%)	170	(14%)	\$114	(9%)
Non-confined	4,360	(10%)	40	(9%)	160	(13%)	\$113	(9%)
Confined	4,630	(10%)	0	(0%)	10	(1%)	\$1	(0%)
Bedroom	5,260	(12%)	60	(14%)	310	(25%)	\$190	(15%)
Non-confined	5,210	(12%)	60	(14%)	310	(25%)	\$190	(15%)
Confined	50	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Attic or ceiling/roof assembly or concealed space	4,520	(10%)	20	(5%)	70	(6%)	\$159	(12%)
Non-confined	4,490	(10%)	20	(5%)	70	(6%)	\$159	(12%)
Confined	30	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Wall assembly or concealed space	2,760	(6%)	20	(5%)	40	(3%)	\$76	(6%)
Non-confined	2,740	(6%)	20	(5%)	40	(3%)	\$76	(6%)
Confined	20	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Common room, living room, family room, lounge or den	2,450	(5%)	120	(27%)	180	(14%)	\$120	(9%)
Non-confined	2,390	(5%)	120	(27%)	180	(14%)	\$120	(9%)
Confined	50	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Laundry room or area	2,300	(5%)	10	(2%)	60	(5%)	\$46	(4%)
Non-confined	2,170	(5%)	10	(2%)	50	(4%)	\$46	(4%)
Confined	130	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Lavatory, bathroom, locker room or check room	2,120	(5%)	10	(2%)	40	(3%)	\$39	(3%)
Non-confined	2,080	(5%)	10	(2%)	40	(3%)	\$39	(3%)
Confined	40	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Exterior wall surface	1,810	(4%)	10	(2%)	20	(2%)	\$39	(3%)
Non-confined	1,790	(4%)	10	(2%)	20	(2%)	\$39	(3%)
Confined	20	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Garage or vehicle storage area	1,590	(4%)	10	(2%)	50	(4%)	\$99	(8%)
Non-confined	1,520	(3%)	10	(2%)	50	(4%)	\$99	(8%)
Confined	70	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Unclassified function area	1,370	(3%)	30	(7%)	70	(6%)	\$56	(4%)
Non-confined	1,340	(3%)	30	(7%)	70	(6%)	\$56	(4%)
Confined	30	(0%)	0	(0%)	0	(0%)	\$0	(0%)

**Table 8.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition
by Area of Origin, 2012-2016 Annual Averages (Continued)**

Area of Origin	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Crawl space or substructure space	1,360	(3%)	10	(2%)	20	(2%)	\$42	(3%)
Non-confined	1,310	(3%)	10	(2%)	20	(2%)	\$42	(3%)
Confined	50	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Ceiling/floor assembly or concealed space	1,200	(3%)	20	(5%)	20	(2%)	\$47	(4%)
Non-confined	1,190	(3%)	20	(5%)	20	(2%)	\$47	(4%)
Confined	10	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Heating equipment room	1,060	(2%)	0	(0%)	10	(1%)	\$16	(1%)
Non-confined	740	(2%)	0	(0%)	10	(1%)	\$16	(1%)
Confined	330	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Closet	740	(2%)	0	(0%)	20	(2%)	\$20	(2%)
Non-confined	680	(2%)	0	(0%)	20	(2%)	\$20	(2%)
Confined	60	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Unclassified structural area	720	(2%)	10	(2%)	20	(2%)	\$31	(2%)
Non-confined	680	(2%)	10	(2%)	20	(2%)	\$31	(2%)
Confined	40	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Confined chimney or flue fire	140	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Other known area of origin	6,500	(14%)	50	(11%)	160	(13%)	\$184	(14%)
Non-confined	5,900	(13%)	50	(11%)	160	(13%)	\$183	(14%)
Confined	600	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Total	44,880	(100%)	440	(100%)	1,250	(100%)	\$1,278	(100%)
Non-confined	38,600	(86%)	440	(100%)	1,230	(98%)	\$1,276	(100%)
Confined	6,270	(14%)	0	(0%)	10	(1%)	\$2	(0%)

Note: Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 9.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition, by Item First Ignited,
2012-2016 Annual Averages

Item First Ignited	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Electrical wire or cable insulation	14,120	(31%)	110	(26%)	360	(28%)	\$307	(24%)
Non-confined	12,410	(28%)	110	(26%)	350	(28%)	\$306	(24%)
Confined	1,710	(4%)	0	(0%)	0	(0%)	\$1	(0%)
Structural member or framing	5,950	(13%)	80	(18%)	140	(11%)	\$266	(21%)
Non-confined	5,950	(13%)	80	(18%)	140	(11%)	\$266	(21%)
Confined	10	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Appliance housing or casing	4,050	(9%)	10	(2%)	80	(6%)	\$48	(4%)
Non-confined	2,120	(5%)	10	(2%)	80	(6%)	\$47	(4%)
Confined	1,930	(4%)	0	(0%)	0	(0%)	\$1	(0%)
Insulation within structural area	2,510	(6%)	0	(1%)	30	(2%)	\$58	(5%)
Non-confined	2,490	(6%)	0	(1%)	30	(2%)	\$58	(5%)
Confined	20	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Interior wall covering, excluding drapes	2,180	(5%)	20	(5%)	60	(5%)	\$88	(7%)
Non-confined	2,150	(5%)	20	(5%)	60	(5%)	\$88	(7%)
Confined	30	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Unclassified item first ignited	2,010	(4%)	0	(0%)	40	(4%)	\$35	(3%)
Non-confined	1,390	(3%)	0	(0%)	40	(4%)	\$35	(3%)
Confined	620	(1%)	0	(0%)	0	(0%)	\$0	(0%)
Exterior wall covering or finish	2,000	(4%)	20	(4%)	30	(2%)	\$60	(5%)
Non-confined	1,980	(4%)	20	(4%)	30	(2%)	\$60	(5%)
Confined	20	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Unclassified structural component or finish	1,500	(3%)	20	(4%)	50	(4%)	\$62	(5%)
Non-confined	1,490	(3%)	20	(4%)	50	(4%)	\$62	(5%)
Confined	10	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Cooking materials, including food	1,300	(3%)	0	(0%)	10	(1%)	\$3	(0%)
Non-confined	180	(0%)	0	(0%)	10	(1%)	\$3	(0%)
Confined	1,120	(2%)	0	(0%)	10	(0%)	\$0	(0%)
Interior ceiling cover or finish	970	(2%)	10	(1%)	20	(1%)	\$41	(3%)
Non-confined	970	(2%)	10	(1%)	20	(1%)	\$41	(3%)
Confined	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Mattress or bedding	940	(2%)	20	(3%)	80	(6%)	\$32	(3%)
Non-confined	930	(2%)	20	(3%)	80	(6%)	\$32	(3%)
Confined	10	(0%)	0	(0%)	0	(0%)	\$0	(0%)

Table 9.
Home Fires Involving Electrical Failure or Malfunction as Factor Contributing to Ignition, by Item First Ignited,
2012-2016 Annual Averages (Continued)

Item First Ignited	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Floor covering rug, carpet, or mat	730	(2%)	30	(6%)	40	(3%)	\$26	(2%)
Non-confined	730	(2%)	30	(6%)	40	(3%)	\$26	(2%)
Confined	0	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Other known item first ignited	6,620	(15%)	130	(30%)	310	(25%)	\$250	(20%)
Non-confined	5,820	(13%)	130	(30%)	310	(25%)	\$250	(20%)
Confined	800	(2%)	0	(0%)	10	(0%)	\$0	(0%)
Total	44,880	(100%)	440	(100%)	1,250	(100%)	\$1,278	(100%)
Non-confined	38,600	(86%)	440	(100%)	1,230	(99%)	\$1,276	(100%)
Confined	6,270	(14%)	0	(0%)	10	(1%)	\$2	(0%)

Note: Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 10.
Home Fires Involving Electrical Distribution and Lighting Equipment by Year
Structure Fires Reported to U.S. Fire Departments

Year	Fires	Civilian Deaths	Civilian Injuries	Direct Property Damage (in Millions)	
				As Reported	In 2016 Dollars
1980	68,400	523	1,650	\$493	\$1,436
1981	62,300	553	1,500	\$459	\$1,209
1982	60,900	408	1,820	\$519	\$1,288
1983	56,700	500	1,570	\$548	\$1,318
1984	54,800	445	1,520	\$549	\$1,265
1985	56,500	470	1,400	\$720	\$1,602
1986	54,300	717	1,420	\$597	\$1,307
1987	51,600	522	1,580	\$512	\$1,080
1988	53,400	439	1,720	\$715	\$1,451
1989	47,900	610	1,500	\$642	\$1,242
1990	47,400	438	1,540	\$683	\$1,255
1991	49,000	354	1,890	\$958	\$1,686
1992	46,400	403	1,770	\$617	\$1,055
1993	48,900	418	1,900	\$818	\$1,357
1994	48,300	464	1,640	\$714	\$1,156
1995	47,200	489	1,650	\$775	\$1,219
1996	47,000	470	1,560	\$839	\$1,284
1997	46,600	352	1,580	\$865	\$1,292
1998	44,500	363	1,370	\$843	\$1,241
1999	34,800	183	530	\$806	\$1,160
2000	26,600	122	1,130	\$631	\$879
2001	26,200	436	1,030	\$717	\$971
2002	22,700	166	700	\$593	\$791
2003	19,200	320	600	\$698	\$911
2004	19,400	292	840	\$623	\$792
2005	20,800	498	1,060	\$858	\$1,053
2006	25,100	366	840	\$776	\$923
2007	25,200	274	1,050	\$663	\$766
2008	24,700	515	880	\$964	\$1,075
2009	21,000	318	1,000	\$935	\$1,045
2010	19,900	242	980	\$774	\$852
2011	21,300	295	840	\$822	\$877
2012	32,900	292	1,250	\$1,326	\$1,386
2013	37,000	601	1,290	\$1,418	\$1,458
2014	37,900	535	1,290	\$1,433	\$1,450
2015	34,600	461	1,020	\$1,136	\$1,149
2016	32,900	562	1,120	\$1,020	\$1,020

Table 10.
Home Fires Involving Electrical Distribution and Lighting Equipment by Year
Structure Fires Reported to U.S. Fire Departments (Continued)

* All 1991 home fire property damage figures are inflated by estimation problems related to the handling of the Oakland fire storm.

Note: Figures exclude confined fires. Fires are rounded to the nearest hundred, deaths to the nearest one, injuries to the nearest ten, and property damage is rounded to the nearest million dollars. Figures reflect a proportional share of home fires with equipment involved in ignition unknown or reported as electrical distribution or lighting equipment of undetermined type. Because of low participation in NFIRS Version 5.0 during 1999-2001, estimates for those years are highly uncertain and must be used with caution. Inflation adjustment to 2016 dollars is calculated using the Consumer Price Index.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 11.
Home Fires Involving Electrical Distribution and Lighting Equipment, by Month
2012-2016 Annual Averages

Month	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)
January	4,010	(11%)	80	(16%)	140	(12%)	\$149	(12%)
February	3,180	(9%)	40	(9%)	100	(8%)	\$116	(9%)
March	2,900	(8%)	50	(11%)	140	(11%)	\$117	(9%)
April	2,620	(7%)	50	(9%)	80	(7%)	\$100	(8%)
May	2,640	(8%)	30	(5%)	100	(8%)	\$103	(8%)
June	2,820	(8%)	10	(2%)	80	(6%)	\$95	(7%)
July	3,060	(9%)	50	(9%)	100	(8%)	\$106	(8%)
August	2,580	(7%)	30	(7%)	110	(9%)	\$84	(7%)
September	2,270	(6%)	40	(7%)	60	(5%)	\$81	(6%)
October	2,460	(7%)	40	(9%)	60	(5%)	\$88	(7%)
November	3,030	(9%)	20	(5%)	110	(9%)	\$104	(8%)
December	3,560	(10%)	50	(10%)	120	(10%)	\$126	(10%)
Total	35,150	(100%)	490	(100%)	1,200	(100%)	\$1,270	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest ten million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 12.
Home Fires Involving Electrical Distribution and Lighting Equipment, by Day of Week
2012-2016 Annual Averages

Day of Week	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Sunday	5,000	(14%)	50	(9%)	180	(15%)	\$189	(15%)
Monday	5,090	(14%)	70	(15%)	130	(11%)	\$182	(14%)
Tuesday	5,030	(14%)	80	(15%)	200	(17%)	\$178	(14%)
Wednesday	5,060	(14%)	80	(17%)	150	(13%)	\$177	(14%)
Thursday	4,860	(14%)	90	(19%)	180	(15%)	\$182	(14%)
Friday	5,000	(14%)	50	(11%)	190	(16%)	\$184	(14%)
Saturday	5,100	(15%)	70	(14%)	160	(14%)	\$178	(14%)
Totals	35,150	(100%)	490	(100%)	1,200	(100%)	\$1,270	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 13.
Home Fires Involving Electrical Distribution and Lighting Equipment, by Time of Day
2012-2016 Annual Averages

Time of Day	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Midnight-12:59 a.m.	1,250	(4%)	30	(7%)	50	(4%)	\$59	(5%)
1:00-1:59 a.m.	1,040	(3%)	60	(13%)	70	(6%)	\$50	(4%)
2:00-2:59 a.m.	1,000	(3%)	50	(9%)	60	(5%)	\$51	(4%)
3:00-3:59 a.m.	990	(3%)	40	(7%)	40	(4%)	\$45	(4%)
4:00-4:59 a.m.	930	(3%)	50	(10%)	60	(5%)	\$44	(3%)
5:00-5:59 a.m.	890	(3%)	30	(6%)	40	(3%)	\$42	(3%)
6:00-6:59 a.m.	1,090	(3%)	10	(3%)	50	(5%)	\$41	(3%)
7:00-7:59 a.m.	1,140	(3%)	20	(5%)	40	(3%)	\$44	(3%)
8:00-8:59 a.m.	1,260	(4%)	10	(2%)	50	(4%)	\$42	(3%)
9:00-9:59 a.m.	1,370	(4%)	20	(5%)	50	(4%)	\$44	(3%)
10:00-10:59 a.m.	1,480	(4%)	10	(2%)	40	(3%)	\$45	(4%)
11:00-11:59 a.m.	1,590	(5%)	10	(3%)	40	(4%)	\$58	(5%)
12:00-12:59 p.m.	1,580	(5%)	0	(1%)	40	(4%)	\$60	(5%)
1:00-1:59 p.m.	1,730	(5%)	0	(1%)	50	(4%)	\$58	(5%)
2:00-2:59 p.m.	1,750	(5%)	10	(2%)	40	(4%)	\$55	(4%)
3:00-3:59 p.m.	1,870	(5%)	10	(1%)	40	(3%)	\$67	(5%)
4:00-4:59 p.m.	1,850	(5%)	10	(2%)	50	(4%)	\$72	(6%)
5:00-5:59 p.m.	1,890	(5%)	10	(3%)	50	(4%)	\$56	(4%)
6:00-6:59 p.m.	1,860	(5%)	20	(3%)	60	(5%)	\$58	(5%)
7:00-7:59 p.m.	1,950	(6%)	10	(3%)	50	(4%)	\$66	(5%)
8:00-8:59 p.m.	1,880	(5%)	20	(3%)	50	(4%)	\$60	(5%)
9:00-9:59 p.m.	1,790	(5%)	10	(2%)	50	(4%)	\$49	(4%)
10:00-10:59 p.m.	1,610	(5%)	20	(4%)	50	(5%)	\$48	(4%)
11:00-11:59 p.m.	1,380	(4%)	10	(3%)	70	(6%)	\$55	(4%)
Total	35,150	(100%)	490	(100%)	1,200	(100%)	\$1,270	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 14.
Home Fires Involving Electrical Distribution and Lighting Equipment, by Equipment Involved in Ignition
2012-2016 Annual Averages

Equipment Involved	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Wiring and related equipment	24,780	(67%)	270	(55%)	640	(53%)	\$853	(67%)
Lamp, bulb or lighting	4,970	(13%)	40	(9%)	200	(17%)	\$164	(13%)
Cord or plug	3,330	(11%)	160	(33%)	230	(19%)	\$143	(11%)
Transformers and power supplies	2,060	(9%)	20	(3%)	130	(11%)	\$108	(9%)
Other known equipment involved in ignition	20	(0%)	0	(0%)	0	(0%)	\$0	(0%)
Total	35,150	(100%)	490	(100%)	1,200	(100%)	\$1,270	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 15.
Home Fires Involving Electrical Distribution and Lighting Equipment, by Cause of Ignition
2012-2016 Annual Averages

Cause of Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Unintentional	18,870	(54%)	250	(52%)	690	(57%)	\$758	(60%)
Failure of equipment or heat source	15,210	(43%)	230	(47%)	500	(41%)	\$481	(38%)
Act of nature	700	(2%)	0	(1%)	10	(1%)	\$19	(1%)
Other or unknown cause	370	(1%)	10	(2%)	0	(0%)	\$12	(1%)
Total	35,150	(100%)	490	(100%)	1,200	(100%)	\$1,270	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 16.
Home Fires Involving Electrical Distribution and Lighting Equipment, by Factor Contributing to Ignition
2012-2016 Annual Averages

Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Electrical failure or malfunction	27,940	(79%)	400	(83%)	870	(72%)	\$1,037	(82%)
Heat source too close to combustibles	1,960	(6%)	30	(5%)	110	(9%)	\$69	(5%)
Mechanical failure or malfunction	1,780	(5%)	10	(2%)	50	(4%)	\$56	(4%)
Equipment overloaded	1,030	(3%)	40	(7%)	70	(6%)	\$40	(3%)
Unclassified misuse of material or product	580	(2%)	10	(2%)	40	(4%)	\$19	(2%)
Other known factor contributing to ignition	3,430	(10%)	50	(9%)	150	(12%)	\$122	(10%)
Total fires	35,150	(100%)	490	(100%)	1,200	(100%)	\$1,270	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Multiple entries are allowed, which can result in sums higher than totals. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 16A.
Home Fires Involving Wiring and Related Equipment, by Factor Contributing to Ignition
2012-2016 Annual Averages

Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Electrical failure or malfunction	22,030	(89%)	250	(91%)	580	(91%)	\$789	(92%)
Mechanical failure or malfunction	1,290	(5%)	10	(4%)	20	(4%)	\$33	(4%)
Equipment overloaded	480	(2%)	10	(3%)	20	(3%)	\$14	(2%)
Other known factor contributing to ignition	2,300	(9%)	20	(10%)	70	(10%)	\$77	(9%)
Total fires	24,780	(100%)	270	(100%)	640	(100%)	\$853	(100%)
Total factors	26,100	(105%)	290	(108%)	690	(108%)	\$913	(107%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Multiple entries are allowed, which can result in sums higher than totals. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 16B.
Home Fires Involving Lamps, Bulbs, or Lighting Equipment, by Factor Contributing to Ignition
2012-2016 Annual Averages

Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Electrical failure or malfunction	2,350	(47%)	20	(39%)	80	(38%)	\$91	(55%)
Heat source too close to combustibles	1,430	(29%)	20	(50%)	70	(36%)	\$45	(28%)
Mechanical failure or malfunction	200	(4%)	0	(0%)	10	(5%)	\$6	(4%)
Equipment unattended	180	(4%)	0	(0%)	10	(4%)	\$5	(3%)
Animal	150	(3%)	0	(6%)	0	(1%)	\$2	(1%)
Misuse of material or product, other	120	(2%)	0	(0%)	10	(5%)	\$3	(2%)
Accidentally turned on, not turned off	120	(2%)	0	(0%)	0	(1%)	\$6	(4%)
Other factor contributed to ignition	100	(2%)	0	(0%)	10	(3%)	\$4	(3%)
Collision, knock down, run over, turn over	100	(2%)	0	(11%)	20	(7%)	\$2	(1%)
Other known factor contributing to ignition	530	(11%)	10	(21%)	20	(10%)	\$15	(9%)
Total fires	4,970	(100%)	40	(100%)	200	(100%)	\$164	(100%)
Total factors	5,290	(106%)	60	(127%)	220	(109%)	\$180	(110%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Multiple entries are allowed, which can result in sums higher than totals. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 16C.
Home Fires Involving Cords or Plugs, by Factor Contributing to Ignition
2012-2016 Annual Averages

Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Electrical failure or malfunction	2,520	(76%)	130	(81%)	170	(74%)	\$111	(77%)
Equipment overloaded	390	(12%)	30	(16%)	40	(17%)	\$17	(12%)
Unclassified misuse of material or product	190	(6%)	10	(5%)	20	(7%)	\$9	(7%)
Mechanical failure or malfunction	110	(3%)	0	(3%)	10	(3%)	\$4	(3%)
Heat source too close to combustibles	110	(3%)	0	(3%)	10	(3%)	\$5	(3%)
Equipment used for not intended purpose	60	(2%)	0	(3%)	10	(5%)	\$2	(1%)
Other known factor contributing to ignition	180	(5%)	10	(4%)	10	(6%)	\$8	(6%)
Total fires	3,330	(100%)	160	(100%)	230	(100%)	\$143	(100%)
Total factors	3,560	(107%)	180	(115%)	260	(114%)	\$156	(109%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Multiple entries are allowed, which can result in sums higher than totals. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 16D.
Home Fires Involving Transformers and Power Supplies, by Factor Contributing to Ignition
2012-2016 Annual Averages

Factor Contributing to Ignition	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Electrical failure or malfunction	1,340	(65%)	10	(81%)	70	(54%)	\$64	(59%)
Mechanical failure or malfunction	180	(9%)	0	(0%)	10	(8%)	\$13	(12%)
Heat source too close to combustibles	170	(8%)	0	(0%)	20	(12%)	\$12	(11%)
Equipment overloaded	120	(6%)	0	(0%)	10	(7%)	\$7	(7%)
Equipment unattended	80	(4%)	0	(0%)	0	(2%)	\$5	(5%)
Unclassified misuse of material or product	60	(3%)	0	(19%)	10	(4%)	\$3	(3%)
Equipment not being operated properly	40	(2%)	0	(0%)	0	(4%)	\$2	(2%)
Other known factor contributing to ignition	230	(11%)	0	(19%)	20	(19%)	\$13	(12%)
Total fires	2,060	(100%)	20	(100%)	130	(100%)	\$108	(100%)
Total factors	2,220	(108%)	20	(118%)	140	(110%)	\$120	(110%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Multiple entries are allowed, which can result in sums higher than totals. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

**Table 17. Home Fires Involving Electrical Distribution and Lighting Equipment, by Heat Source
2012-2016 Annual Averages**

Heat Source	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Arcing	25,770	(73%)	340	(69%)	791	(66%)	\$902	(71%)
Unclassified heat from powered equipment	4,230	(12%)	70	(14%)	194	(16%)	\$177	(14%)
Radiated or conducted heat from operating equipment	2,800	(8%)	50	(9%)	137	(11%)	\$96	(8%)
Spark, ember or flame from operating equipment	990	(3%)	10	(3%)	39	(3%)	\$47	(4%)
Other known heat source	1,370	(4%)	20	(5%)	40	(3%)	\$48	(4%)
Total	35,150	(100%)	490	(100%)	1,200	(100%)	\$1,270	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 18.
Home Fires Involving Electrical Distribution and Lighting Equipment, by Area of Origin
2012-2016 Annual Averages

Area of Origin	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Bedroom	5,830	(17%)	90	(18%)	400	(34%)	\$201	(16%)
Attic or ceiling/roof assembly or concealed space	4,390	(12%)	30	(6%)	60	(5%)	\$163	(13%)
Wall assembly or concealed space	3,020	(9%)	20	(5%)	40	(4%)	\$92	(7%)
Common room, living room, family room, lounge or den	2,450	(7%)	130	(27%)	180	(15%)	\$115	(9%)
Exterior wall surface	2,300	(7%)	10	(1%)	30	(2%)	\$51	(4%)
Kitchen or cooking area	2,190	(6%)	40	(9%)	70	(6%)	\$75	(6%)
Garage or vehicle storage area	1,550	(4%)	0	(0%)	50	(4%)	\$104	(8%)
Crawl space or substructure space	1,300	(4%)	20	(5%)	20	(2%)	\$43	(3%)
Unclassified function area	1,290	(4%)	40	(8%)	50	(5%)	\$46	(4%)
Ceiling/floor assembly or concealed space	1,200	(3%)	30	(5%)	30	(2%)	\$54	(4%)
Laundry room or area	1,110	(3%)	10	(1%)	40	(3%)	\$29	(2%)
Lavatory, bathroom, locker room or check room	1,080	(3%)	0	(0%)	20	(1%)	\$27	(2%)
Closet	690	(2%)	0	(1%)	30	(2%)	\$28	(2%)
Exterior balcony or unenclosed porch	570	(2%)	10	(2%)	10	(1%)	\$26	(2%)
Unclassified structural area	530	(2%)	10	(2%)	20	(1%)	\$29	(2%)
Other known area of origin	5,660	(16%)	50	(10%)	150	(12%)	\$186	(15%)
Total	35,150	(100%)	490	(100%)	1,200	(100%)	\$1,270	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 18A.
Home Fires Involving Wiring and Related Equipment, by Area of Origin
2012-2016 Annual Averages

Area of Origin	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Attic or ceiling/roof assembly or concealed space	3,860	(16%)	20	(7%)	50	(8%)	\$142	(17%)
Bedroom	3,220	(13%)	40	(15%)	180	(28%)	\$105	(12%)
Wall assembly or concealed space	2,850	(12%)	20	(7%)	40	(6%)	\$87	(10%)
Exterior wall surface	1,740	(7%)	10	(4%)	20	(3%)	\$37	(4%)
Kitchen or cooking area	1,670	(7%)	30	(11%)	40	(6%)	\$57	(7%)
Living room, family room, or den	1,370	(6%)	40	(15%)	80	(13%)	\$64	(7%)
Crawl space or substructure space	1,070	(4%)	20	(7%)	10	(2%)	\$34	(4%)
Ceiling/floor assembly or concealed space	940	(4%)	30	(11%)	20	(3%)	\$47	(5%)
Laundry room or area	900	(4%)	0	(0%)	30	(5%)	\$25	(3%)
Garage or vehicle storage area	800	(3%)	0	(0%)	20	(3%)	\$47	(6%)
Unclassified function area	780	(3%)	20	(7%)	20	(3%)	\$29	(3%)
Lavatory, bathroom, locker room or check room	710	(3%)	0	(0%)	10	(2%)	\$19	(2%)
Closet	430	(2%)	0	(0%)	20	(3%)	\$17	(2%)
Unclassified structural area	390	(2%)	0	(0%)	10	(2%)	\$21	(2%)
Conduit, pipe, utility, or ventilation shaft	380	(2%)	0	(0%)	0	(0%)	\$8	(1%)
Other known area of origin	3,670	(15%)	30	(11%)	80	(13%)	\$116	(14%)
Total	24,780	(100%)	270	(100%)	640	(100%)	\$853	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 18B.
Home Fires Involving Lamp, Bulb, or Lighting, by Area of Origin
2012-2016 Annual Averages

Area of Origin	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Bedroom	1,110	(22%)	20	(45%)	90	(46%)	\$32	(19%)
Attic or ceiling/roof assembly or concealed space	490	(10%)	0	(4%)	10	(4%)	\$19	(12%)
Living room, family room, or den	400	(8%)	10	(29%)	30	(16%)	\$19	(11%)
Exterior wall surface	320	(6%)	0	(0%)	0	(2%)	\$6	(4%)
Lavatory, bathroom, locker room or check room	320	(6%)	0	(0%)	0	(1%)	\$6	(4%)
Kitchen or cooking area	240	(5%)	0	(4%)	10	(4%)	\$8	(5%)
Ceiling/floor assembly or concealed space	210	(4%)	0	(0%)	0	(2%)	\$7	(4%)
Exterior balcony, unenclosed porch	200	(4%)	0	(0%)	0	(1%)	\$9	(5%)
Closet	200	(4%)	0	(0%)	10	(4%)	\$9	(6%)
Unclassified function area	200	(4%)	0	(4%)	10	(4%)	\$6	(4%)
Garage or vehicle storage area	190	(4%)	0	(4%)	10	(4%)	\$8	(5%)
Wall assembly or concealed space	90	(2%)	0	(0%)	0	(0%)	\$3	(2%)
Courtyard, terrace or patio	90	(2%)	0	(0%)	0	(1%)	\$4	(3%)
Unclassified outside area	90	(2%)	0	(0%)	0	(0%)	\$4	(2%)
Other known area of origin	830	(17%)	0	(9%)	20	(11%)	\$23	(14%)
Total	4,970	(100%)	40	(100%)	200	(100%)	\$164	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 18C.
Home Fires Involving Cords or Plugs, by Area of Origin
2012-2016 Annual Averages

Area of Origin	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Bedroom	1,110	(33%)	30	(18%)	100	(42%)	\$45	(32%)
Living room, family room, or den	485	(15%)	70	(44%)	50	(21%)	\$25	(17%)
Garage or vehicle storage area	228	(7%)	0	(0%)	10	(4%)	\$15	(10%)
Kitchen or cooking area	203	(6%)	10	(6%)	10	(5%)	\$7	(5%)
Unclassified function area	202	(6%)	20	(10%)	10	(6%)	\$8	(6%)
Laundry room or area	124	(4%)	0	(1%)	0	(2%)	\$2	(2%)
Crawl space or substructure space	104	(3%)	0	(1%)	10	(3%)	\$2	(2%)
Exterior wall surface	91	(3%)	0	(1%)	0	(1%)	\$2	(2%)
Exterior balcony, unenclosed porch	67	(2%)	10	(6%)	0	(1%)	\$3	(2%)
Wall assembly or concealed space	66	(2%)	0	(1%)	0	(0%)	\$2	(1%)
Unclassified structural area	51	(2%)	10	(4%)	0	(2%)	\$3	(2%)
Other known area of origin	600	(18%)	10	(8%)	30	(12%)	\$28	(19%)
Total	3,330	(100%)	160	(100%)	230	(100%)	\$143	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 18D.
Home Fires Involving Transformers and Power Supplies, by Area of Origin
2012-2016 Annual Averages

Area of Origin	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Bedroom	450	(22%)	10	(45%)	40	(32%)	\$21	(19%)
Garage or vehicle storage area	340	(16%)	0	(0%)	20	(14%)	\$36	(33%)
Living room, family room, or den	210	(10%)	0	(21%)	20	(13%)	\$9	(8%)
Exterior wall surface	110	(5%)	0	(0%)	0	(3%)	\$4	(4%)
Unclassified function area	100	(5%)	0	(0%)	10	(8%)	\$2	(2%)
Kitchen or cooking area	90	(4%)	0	(0%)	0	(3%)	\$2	(2%)
Exterior balcony, unenclosed porch	50	(2%)	0	(12%)	10	(5%)	\$4	(3%)
Unclassified outside area	50	(2%)	0	(0%)	0	(1%)	\$2	(2%)
Crawl space or substructure space	50	(2%)	0	(0%)	0	(1%)	\$3	(2%)
Office	40	(2%)	0	(0%)	0	(0%)	\$2	(2%)
Storage of supplies or tools or dead storage	40	(2%)	0	(0%)	0	(1%)	\$2	(2%)
Dining room, bar or beverage area, cafeteria	30	(2%)	0	(0%)	10	(6%)	\$1	(1%)
Unclassified storage area	30	(2%)	0	(0%)	0	(2%)	\$1	(1%)
Other known area of origin	460	(22%)	0	(22%)	10	(12%)	\$19	(17%)
Total	2,060	(100%)	20	(100%)	130	(100%)	\$108	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

Table 19.
Home Fires Involving Electrical Distribution and Lighting Equipment, by Item First Ignited
2012-2016 Annual Averages

Item First Ignited	Fires		Civilian Deaths		Civilian Injuries		Direct Property Damage (in Millions)	
Electrical wire or cable insulation	11,020	(31%)	120	(25%)	330	(27%)	\$319	(25%)
Structural member or framing	5,960	(17%)	90	(18%)	150	(13%)	\$283	(22%)
Insulation within structural area	2,400	(7%)	0	(0%)	20	(2%)	\$60	(5%)
Exterior wall covering or finish	2,300	(7%)	20	(5%)	30	(3%)	\$75	(6%)
Interior wall covering, excluding drapes	1,740	(5%)	20	(4%)	50	(5%)	\$73	(6%)
Unclassified structural component or finish	1,520	(4%)	10	(3%)	40	(3%)	\$60	(5%)
Mattress or bedding	1,150	(3%)	20	(3%)	110	(9%)	\$38	(3%)
Unclassified item first ignited	950	(3%)	10	(1%)	20	(2%)	\$24	(2%)
Interior ceiling cover or finish	760	(2%)	10	(1%)	10	(1%)	\$35	(3%)
Clothing	720	(2%)	30	(7%)	50	(5%)	\$24	(2%)
Floor covering rug, carpet, or mat	700	(2%)	10	(1%)	40	(3%)	\$33	(3%)
Upholstered furniture or vehicle seat	610	(2%)	50	(10%)	70	(6%)	\$35	(3%)
Unclassified furniture or utensils	540	(2%)	20	(5%)	20	(2%)	\$22	(2%)
Other known item first ignited	4,760	(14%)	80	(16%)	240	(20%)	\$188	(15%)
Total	35,150	(100%)	490	(100%)	1,200	(100%)	\$1,270	(100%)

Note: Figures exclude confined fires which are fires reported as confined to fuel burner or boiler, chimney or flue, cooking vessel, trash, incinerator, or commercial compactor. Fires, deaths, and injuries are rounded to the nearest ten, and direct property damage to the nearest million dollars. Figures reflect a proportional share of home fires with factor contributing to ignition listed as unknown, unreported, none, or blank. Totals may not equal sums because of rounding error.

Source: Data from NFIRS Version 5.0 and NFPA Fire Experience Survey.

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