

# Fluorescent Lamp Ballasts: 2004

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## Summary

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**SUMMARY OF FINDINGS.** The value of manufactures' shipments of fluorescent lamp ballasts amounted to \$798 million in 2004, a decrease of 1 percent from shipments of \$802 million in 2003. The quantity of

fluorescent lamp ballasts shipped decreased to 87.9 million units in 2004, from 89.7 million units in 2003, a 2-percent decrease.

Magnetic type's share of the market fell to 33 percent of the quantity, and only 27 percent of the value of shipments. Electronic type's market share increased to 67 percent of the quantity and 73 percent of the value of shipments.

The value of shipments of electronic ballasts totaled \$579 million in 2004, compared to a level of \$557 million in 2003. Quantity of ballasts reached 59.1 million units, an increase of 8 percent, compared to 54.4 million units in 2003. This is the highest level of electronic type ballasts sold.

For general CIR information, explanation of general terms and historical note, see the appendix.

Address inquiries concerning these data to Investment Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call Kellie Friedrich, 301-763-5168.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-763-4673.

**U S C E N S U S B U R E A U**

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Table 1. Summary of Shipments of Fluorescent Lamp Ballasts: 1994 to 2004  
 [Quantity in thousands of ballasts. Value in thousands of dollars]

Year	Magnetic type							
	Total		Uncorrected power-factor type		Corrected power-factor type		Electronic type	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
2004.....	87,963	797,807	(D)	(D)	(D)	(D)	59,118	579,388
2003.....	89,711	801,539	(D)	(D)	(D)	(D)	54,477	557,392
2002.....	94,497	836,364	(D)	(D)	(D)	(D)	53,820	573,106
2001.....	99,426	877,367	(D)	(D)	(D)	(D)	52,702	581,861
2000.....	104,771	898,524	17,908	58,719	37,540	284,289	49,323	555,516
1999.....	102,894	884,513	19,822	58,145	41,441	326,314	41,631	500,054
1998.....	103,724	914,265	21,298	62,207	42,584	339,230	39,842	512,828
1997.....	103,947	906,477	24,517	68,528	42,887	343,928	36,543	494,021
1996.....	97,355	909,178	24,172	67,884	42,841	389,877	30,342	451,417
1995.....	105,306	1,002,115	24,764	68,165	47,648	427,062	32,894	506,888
1994.....	108,114	940,746	27,517	75,013	55,991	474,958	24,606	390,775

D Withheld to avoid disclosing data for individual companies.

Table 2. Shipments of Fluorescent Lamp Ballasts by Product: 2004  
 [Quantity in thousands of ballasts. Value in thousands of dollars]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
33531115	Fluorescent lamp.....	87,963	797,807	r/ 20,407	191,521	23,974	207,777	21,982	196,876	21,600	201,633
	Magnetic type.....	28,845	218,419	r/ 6,827	r/ 57,811	7,649	r/ 51,728	7,074	r/ 51,050	7,295	r/ 57,830
	Uncorrected power-factor type (less than 85 percent power factor).....	(D)	(D)	(D)	(D)	r/ 2,229	9,968	r/ 1,830	9,114	r/ 1,826	9,996
	Preheat start.....	(D)	(D)	(D)	(D)	r/ 1,434	4,006	r/ 1,122	3,154	r/ 1,230	3,494
3353115103	Single-ended compact lamps.....	1,445	3,900	r/ 366	r/ 987	r/ 399	r/ 1,053	r/ 310	r/ 861	r/ 370	r/ 999
3353115105	Linear and circline lamps up to 20 watt.....	3,196	8,036	864	2,117	880	2,242	699	1,750	753	1,927
3353115107	Linear and circline lamps 21 watts and over.....	(D)	(D)	(D)	(D)	155	711	113	543	107	568
3353115109	All other magnetic uncorrected power-factor type, including rapid start.....	3,123	25,096	1,024	6,672	r/ 795	5,962	r/ 708	5,960	r/ 596	6,502
	Corrected power-factor type (85 percent power factor or above).....	(D)	(D)	(D)	(D)	5,420	r/ 41,760	5,244	r/ 41,936	5,469	r/ 47,834
	Slimline and instant start.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115111	Two-lamp 75W/96T12/IS and 57W/72T12/IS.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115113	Other slimline and instant start.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Rapid start.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115115	One-lamp 40W/48T12/RS.....	502	3,073	r/ 121	r/ 688	r/ 120	r/ 739	r/ 130	r/ 806	r/ 131	r/ 840
3353115117	Two-lamp 40W/48T12/RS.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115119	Two-lamp 32W/48T8/RS.....	200	1,870	50	373	52	424	42	391	56	682
	All other rapid start 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115121	800 to 1000 mA 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115123	1500 mA 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115125	Other rapid start 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Preheat start 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115127	Single-ended compact lamps 1/.....	474	3,713	131	984	138	1,013	101	833	104	883
3353115129	Linear and circline lamps 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115131	All other magnetic corrected-power factor type 1/.....	(D)	66,103	(D)	17,574	(D)	14,981	(D)	15,184	(D)	18,364
	Electronic type.....	59,118	579,388	13,580	133,710	16,325	156,049	14,908	145,826	14,305	143,803
	Uncorrected power-factor type (less than 90 percent power factor).....	463	4,172	r/ 72	780	109	957	104	970	178	1,465
3353115133	Single-ended compact lamps.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115135	All other electronic uncorrected power-factor type.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Corrected power-factor type (90 percent power factor or above).....	58,655	575,216	13,508	132,930	16,216	155,092	14,804	144,856	14,127	142,338
	Instant start:										
	One- and two-lamp 32W/48T8.....	22,538	172,816	5,330	41,253	6,270	47,285	5,694	43,524	5,244	40,754
3353115139	Three- and four-lamp 32W/48T8.....	20,591	192,939	4,809	45,057	5,588	51,282	5,185	48,330	5,009	48,270
3353115141	Two-lamp 59W/96T8.....	1,214	15,885	315	4,109	333	4,372	301	3,880	265	3,524
3353115143	Two-lamp 75W/96T12/IS 2/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115144	Linear T5 3/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115145	All other instant start 2/.....	1,220	15,099	327	4,146	337	3,963	294	3,542	262	3,448
	Rapid start:										
3353115147	All 32W/48T8.....	2,397	27,442	552	6,432	768	8,680	559	6,253	518	6,077
3353115149	All other T8, 4 foot and less 3/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115151	Two lamp 40W/48T12/RS 3/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115153	800 mA 3/.....	434	9,092	(D)	2,057	108	1,827	130	2,249	196	2,959
3353115154	Compact fluorescent up to and including 26W.....	4,713	44,878	1,069	10,380	1,272	11,832	1,157	10,888	1,215	11,778
3353115156	Compact fluorescent 27W and over.....	903	11,698	205	2,658	247	3,130	234	3,000	217	2,910
3353115158	Linear T5, normal output 4/ 5/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115160	Linear T5, high output.....	2,898	46,117	512	7,721	788	12,415	815	12,905	783	13,076
3353115162	Dimming, linear 5/.....	(D)	(D)	168	4,784	167	4,415	208	5,485	(D)	(D)
3353115164	Dimming, compact fluorescent 4/ 5/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115166	All other rapid start.....	276	5,455	76	1,389	77	1,607	56	1,137	r/ 67	1,322
3353115168	All other electronic corrected power-factor type 4/ 5/.....	(S)	(S)	145	2,944	261	4,284	170	3,663	r/ 351	r/ 8,220

D Withheld to avoid disclosing data for individual companies. mA Miliampere. r/Revised by 5 percent or more from previously published data. S Does not meet publication standards.

1/"All other rapid start" and product codes 3353115121, 3353115123, 3353115125, and "Preheat start" and product codes 3353115127 and 3353115129 are combined with product code 3353115131 to avoid disclosing data for individual companies.

2/Product code 3353115143 is combined with product code 3353115145 to avoid disclosing data for individual companies.

3/Product codes 3353115144, 3353115149, and product code 3353115151 are combined with product code 3353115153 to avoid disclosing data for individual companies.

4/For the first, second, and third quarters, product codes 3353115158 and 3353115164 are combined with product code 3353115168 to avoid disclosing data for individual companies.

5/For the fourth quarter, product codes 3353115158, 3353115162, and 3353115164 are combined with product code 3353115168 to avoid disclosing data for individual companies.

Table 3. Shipments of Fluorescent Lamp Ballasts by Product: 2003  
 [Quantity in thousands of ballasts. Value in thousands of dollars]

Product code	Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
3353115	Fluorescent lamp ballasts.....	89,711	801,539	22,868	203,416	22,173	196,722	22,538	201,331	22,132	200,070
	Magnetic type.....	35,234	244,147	9,630	68,097	8,453	56,871	8,495	57,429	8,656	61,750
	Uncorrected power-factor type (less than 85 percent power factor).....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Preheat.....	(D)	15,846	1,613	4,407	1,581	3,877	(D)	3,922	(D)	3,640
3353115103	Single-ended compact lamps.....	1,788	3,921	466	1,112	482	932	434	953	406	924
3353115105	Linear and circline lamps up to 20 watt.....	3,515	8,569	939	2,384	867	2,097	902	2,177	807	1,911
3353115107	Linear and circline lamps 21 watts and over.....	(D)	3,356	208	911	232	848	(D)	792	(D)	805
3353115109	All other magnetic uncorrected power-factor type, including rapid start.....	4,559	28,188	1,262	8,183	1,117	6,486	1,065	6,414	1,115	7,105
	Corrected power-factor type (85 percent power factor or above).....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Slimline and instant start.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115111	Two-lamp 75W/96T12/IS and 57W/72T12/IS.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115113	Other slimline and instant start.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Rapid start.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115115	One-lamp 40W/48T12/RS.....	770	3,941	196	987	204	1,031	177	904	193	1,019
3353115117	Two-lamp 40W/48T12/RS.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115119	Two-lamp 32W/48T8/RS.....	221	1,650	57	454	60	436	53	387	51	373
	All other rapid start 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115121	800 to 1000 mA 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115123	1500 mA 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115125	Other rapid start 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Preheat start 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115127	Single-ended compact lamps 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	121	880
3353115129	Linear and circline lamps 1/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115131	All other magnetic corrected-power factor type 1/.....	(D)	67,987	1,031	18,528	877	16,153	850	15,767	(D)	17,539
	Electronic type.....	54,477	557,392	13,238	135,319	13,720	139,851	14,043	143,902	13,476	138,320
	Uncorrected power-factor type (less than 90 percent power factor).....	634	5,313	208	1,649	236	1,788	103	1,019	87	857
3353115133	Single-ended compact lamps.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115135	All other electronic uncorrected power-factor type.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
	Corrected power-factor type (90 percent power factor or above).....	53,843	552,079	13,030	133,670	13,484	138,063	13,940	142,883	13,389	137,463
	Instant start:										
3353115137	One- and two-lamp 32W/48T8.....	22,109	184,000	5,393	45,251	5,612	47,149	5,764	47,711	5,340	43,889
3353115139	Three- and four-lamp 32W/48T8..	18,816	188,818	4,421	44,659	4,714	47,356	4,852	48,805	4,829	47,998
3353115141	Two-lamp 59W/96T8.....	1,218	16,978	335	4,632	312	4,430	292	4,154	279	3,762
3353115143	Two-lamp 75W/96T12/IS 2/.....	(D)	(D)	59	1,050	(D)	(D)	(D)	(D)	(D)	(D)
3353115144	Linear T5 3/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115145	All other instant start 2/.....	1,103	14,195	253	3,083	279	3,688	293	3,730	278	3,694
	Rapid start:										
3353115147	All 32W/48T8.....	2,072	25,431	550	6,654	564	6,919	509	6,259	449	5,599
3353115149	All other T8, 4 foot and less 3/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115151	Two lamp 40W/48T12/RS 3/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115153	800 mA 3/.....	(D)	8,087	(D)	2,039	(D)	2,053	(D)	2,066	(D)	1,929
3353115154	Compact fluorescent up to and including 26W.....	4,082	40,966	961	9,671	1,000	9,961	1,081	10,704	1,040	10,630
3353115156	Compact fluorescent 27W and over....	749	10,064	181	2,477	172	2,273	201	2,655	195	2,659
3353115158	Linear T5, normal output 4/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115160	Linear T5, high output.....	1,750	28,374	389	5,885	398	6,305	469	8,084	494	8,100
3353115162	Dimming, linear.....	629	17,952	135	4,045	137	4,084	161	4,520	196	5,303
3353115164	Dimming, compact fluorescent 5/.....	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3353115166	All other rapid start.....	305	6,096	82	1,517	71	1,572	79	1,499	73	1,508
3353115168	All other electronic corrected power-factor type 5/.....	(D)	10,068	(D)	2,707	100	2,273	(D)	2,696	108	2,392

D Withheld to avoid disclosing data for individual companies. mA Miliampere.

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2/Product codes 3353115143 and 3353115144 are combined with product code 3353115145 to avoid disclosing data for individual companies.

3/Product codes 3353115149 and 3353115151 are combined with product code 3353115153 to avoid disclosing data for individual companies.

4/Product code 3353115156 is combined with product code 3353115158 to avoid disclosing data for individual companies.

5/Product code 3353115164 is combined with product code 3353115168 to avoid disclosing data for individual companies.

Table 4. Shipments of Fluorescent Lamp Ballasts by Distribution Channel: 2004  
 [Quantity in thousands of ballasts. Value in thousands of dollars]

Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Fluorescent lamp ballasts.....	87,963	797,807	20,407	191,521	23,974	207,777	21,982	196,876	21,600	201,633
Shipments to original equipment manufacturers (OEM).....	65,355	531,884	15,338	126,529	18,375	146,934	16,205	130,507	15,437	127,914
Shipments to distribution.....	22,608	265,923	5,069	64,992	5,599	60,843	5,777	66,369	6,163	73,719
Magnetic type.....	28,845	218,419	6,827	57,811	7,649	r/ 51,728	7,074	r/ 51,050	7,295	57,830
Shipments to original equipment manufacturers (OEM).....	20,281	122,497	4,931	32,111	5,439	31,653	4,881	r/ 27,778	5,030	30,955
Shipments to distribution.....	8,564	95,922	1,896	25,700	r/ 2,210	r/ 20,075	2,193	23,272	2,265	26,875
Electronic type.....	59,118	579,388	13,580	133,710	16,325	156,049	14,908	145,826	14,305	143,803
Shipments to original equipment manufacturers (OEM).....	45,074	409,387	10,407	94,418	12,936	115,281	11,324	102,729	10,407	96,959
Shipments to distribution.....	14,044	170,001	3,173	39,292	3,389	40,768	3,584	43,097	3,898	46,844

r/Revised by 5 percent or more from previously published data.

Table 5. Shipments of Fluorescent Lamp Ballasts by Distribution Channel: 2003  
 [Quantity in thousands of ballasts. Value in thousands of dollars]

Product description	Total		First quarter		Second quarter		Third quarter		Fourth quarter	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Fluorescent lamp ballasts.....	89,711	801,539	22,868	203,416	22,173	196,722	22,538	201,331	22,132	200,070
Shipments to original equipment manufacturers (OEM).....	66,119	527,384	16,929	133,856	16,381	130,496	16,729	133,556	16,080	129,476
Shipments to distribution.....	23,592	274,155	5,939	69,560	5,792	66,226	5,809	67,775	6,052	70,594
Magnetic type.....	35,234	244,147	9,630	68,097	8,453	56,871	8,495	57,429	8,656	61,750
Shipments to original equipment manufacturers (OEM).....	25,332	137,798	6,956	39,170	6,063	31,892	6,036	31,866	6,277	34,870
Shipments to distribution.....	9,902	106,349	2,674	28,927	2,390	24,979	2,459	25,563	2,379	26,880
Electronic type.....	54,477	557,392	13,238	135,319	13,720	139,851	14,043	143,902	13,476	138,320
Shipments to original equipment manufacturers (OEM).....	40,787	389,586	9,973	94,686	10,318	98,604	10,693	101,690	9,803	94,606
Shipments to distribution.....	13,690	167,806	3,265	40,633	3,402	41,247	3,350	42,212	3,673	43,714

Table 6. Shipments, Exports, Imports, and Apparent Consumption of Fluorescent Lamp Ballasts: 1994 to 2004  
 [Quantity in thousands of ballasts. Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments		Exports of domestic merchandise 1/		Imports for consumption 2/		
		Quantity	Value f.o.b. plant	Quantity 4/	Value at port 4/	Quantity 4/	Value 3/ 4/	
3353115	Fluorescent lamp ballasts.....	2004.....	87,963	797,807	12,212	81,641	106,402	741,551
		2003.....	89,711	801,539	19,584	141,815	105,574	711,073
		2002.....	94,497	836,364	20,619	170,923	116,176	679,508
		2001.....	99,426	877,367	23,540	185,934	101,777	608,955
		2000.....	104,771	898,524	20,531	164,223	125,698	634,799
		1999.....	102,894	884,513	17,277	157,642	102,454	617,711
		1998.....	103,724	914,265	14,265	138,415	95,495	601,293
		1997.....	103,947	906,477	22,982	128,119	98,010	588,552
		1996.....	97,355	909,178	17,955	92,191	81,844	504,702
		1995.....	105,306	1,002,115	10,400	72,610	73,707	502,564
		1994.....	108,114	940,746	10,178	66,697	62,702	352,952

1/Source: Census Bureau report EM 545, U.S. Exports. Schedule B export code is 8504.10.0000.

2/Source: Census Bureau report IM 145, U.S. Imports for Consumption. HTSUSA import code is 8504.10.0000.

3/Value represents c.i.f. plus U.S. import duties.

4/Exports/imports are overstated due to the inclusion of specialty transformers classified in product class 3353113.

# Appendix.

## General CIR Survey Information, Explanation of General Terms and Historical Note

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### GENERAL

The CIR program has been providing monthly, quarterly, and annual measures of industrial activity for many years. Since 1904, with its cotton and fats and oils surveys, the CIR program has formed an essential part of an integrated statistical system involving the quinquennial economic census, manufacturing sector, and the annual survey of manufactures. The CIR surveys, however, provide current statistics at a more detailed product level than either of the other two statistical programs.

The primary objective of the CIR program is to produce timely, accurate data on production and shipments of selected products. The data are used to satisfy economic policy needs and for market analysis, forecasting, and decision making in the private sector. The product-level data generated by these surveys are used extensively by individual firms, trade associations, and market analysts in planning or recommending marketing and legislative strategies, particularly if their industry is significantly affected by foreign trade. Although production and shipments information are the two most common data items collected, the CIR program collects other measures also such as inventories, orders, and consumption. These surveys measure manufacturing activity in important commodity areas such as textiles and apparel, chemicals, primary metals, computer and electronic components, industrial equipment, aerospace equipment, and consumer goods.

The CIR program uses a unified data collection, processing, and publication system. The U.S. Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic census, manufacturing sector. The manufacturing sector provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is too large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. The CIR program includes a group of mandatory and voluntary surveys. Typically the monthly and quarterly surveys are conducted on a voluntary basis. Those companies that choose not to respond to the voluntary surveys are required to submit a mandatory annual counterpart corresponding to the more frequent survey.

### NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS), 1997

The adoption of the North American Industry Classification System (NAICS) in the 1997 Economic Census has had a major impact on the comparability of current and historic data. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those that left manufacturing are logging and portions of publishing. Prominent among the industries that came into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. The net effect of the classification changes are such that if the 1997 value of shipments data for all manufacturers were tabulated on an SIC basis, it would be approximately 3 percent higher.

Listed below are the NAICS sectors:

- 21 Mining
- 22 Utilities
- 23 Construction
- 31-33 Manufacturing
- 42 Wholesale Trade
- 44-45 Retail Trade
- 48-49 Transportation and Warehousing
- 51 Information
- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing
- 54 Professional, Scientific, and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste Management and Remediation Services
- 61 Educational Services
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Food Services
- 81 Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

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The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

## FUNDING

The Census Bureau funds most of the surveys. However, a number of surveys are paid for either fully or partially by other Federal Government agencies or private trade associations. A few surveys are mandated, but all are authorized by Title 13 of the United States Code.

## RELIABILITY OF DATA

Survey error may result from several sources including the inability to obtain information about all cases in the survey, response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding the reported data, and other errors of collection, response, coverage, and estimation. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to these nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is the imputing of data for nonrespondents, for late reporters, and for data that fail logic edits. Missing figures are imputed based on period-to-period movements shown by reporting firms. A figure is considered to be an impute if the value was not directly reported on the questionnaire, directly derived from other reported items, directly available from supplemental sources, or obtained from the respondent during the analytical review phase. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are suppressed or footnoted. The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

## DATA REVISIONS

Statistics for previous years may be revised as the result of corrected figures from respondents, late reports for which imputations were originally made, or other corrections. Data that have been revised by more than 5 percent from previously published data are indicated by footnotes.

## DISCLOSURE

The Census Bureau collects the CIR data under the authority of Title 13, United States Code, which specifies that the information can only be used for statistical purposes and cannot be published or released in any manner that would identify a person, household, or establishment. "D" indicates that data in the cell have been suppressed to avoid disclosure of information pertaining to individual companies.

## EXPLANATION OF GENERAL TERMS

**Capacity.** The maximum quantity of a product that can be produced in a plant in 1 day if operating for 24 hours. Includes the capacity of idle plants until the plant is reported to be destroyed, dismantled, or abandoned.

**Consumption.** Materials used in producing or processing a product or otherwise removing the product from the inventory.

**Exports.** Includes all types of products shipped to foreign countries, or to agents or exporters for reshipment to foreign countries.

**Gross shipments.** The quantity or value of physical shipments from domestic establishments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale or use. Shipments of products purchased for resale are omitted. Shipments of products made under toll arrangements are included.

**Interplant transfers.** Shipments to other domestic plants within a company for further assembly, fabrication, or manufacture.

**Inventories.** The quantity or value of finished goods, work in progress, and materials on hand.

**Machinery in place.** The number of machines of a particular type in place as of a particular date whether the machinery was used for production, prototype, or sampling, or was idle. Machinery in place includes all machinery set up in operating positions.

**Net receipts.** Derived by subtracting the materials held at the end of the previous month from the sum of materials used during the current month.

**Production.** The total volume of products produced, including: products sold; products transferred or added to inventory after adjustments for breakage, shrinkage, and obsolescence, plus any other inventory adjustment; and products that undergo further manufacture at the same establishment.

**Quantities produced and consumed.** Quantities of each type of product produced by a company for internal consumption within that same company.

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**Quantity and value of new orders.** The sales value of orders received during the current reporting period for products and services to be delivered immediately or at some future date. Also represents the net sales value of contract change documents that increase or decrease the sales value of the orders to which they are related, when the parties concerned are in substantial agreement as to the amount involved. Included as orders are only those that are supported by binding legal documents such as signed contracts or letter contracts.

**Quantity and value of shipments.** The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and

returns. Shipments to a company's own branches are assigned the same value as comparable appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

**Stocks.** Total quantity of ending finished inventory.

**Unfilled orders (backlog).** Calculated by adding net new orders and subtracting net sales from the backlog at the end of the preceding year.

#### **HISTORICAL NOTE**

Data on fluorescent lamp ballasts have been collected by the Census Bureau since 1955. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library.