

DOE Commercial Reference Buildings
Version 1.4_7.0
New Construction, ANSI/ASHRAE/IESNA 90.1-2004
Site Energy Use Intensities (EUIs) [kBtu/ft²/yr]
August 2012

	Miami	Houston	Phoenix	Atlanta	Los Angeles	Las Vegas	San Francisco	Baltimore	Albuquerque	Seattle	Chicago	Denver	Minneapolis	Helena	Duluth	Fairbanks	Weighted Average
Climate Zone	1A	2A	2B	3A	3B	3B	3C	4A	4B	4C	5A	5B	6A	6B	7	8	
Large Office	47	48	45	44	39	41	41	46	40	41	47	42	52	46	53	67	45
Medium Office	51	51	51	48	41	47	43	51	46	45	52	47	57	51	59	76	50
Small Office	52	51	53	47	41	46	41	51	47	47	54	49	59	54	61	83	51
Warehouse	29	23	24	27	19	24	23	32	29	28	38	34	46	41	53	78	30
Stand-alone Retail	60	63	62	63	46	58	53	74	64	68	84	72	96	87	107	150	72
Strip Mall	57	61	60	65	48	61	57	78	68	74	89	76	103	94	115	164	71
Primary School	57	57	57	55	46	54	52	62	56	55	66	59	75	67	80	103	60
Secondary School	60	61	59	60	44	56	51	71	59	63	78	66	91	79	99	135	67
Supermarket	158	169	161	173	156	162	169	186	171	184	197	183	211	200	225	272	183
Quick Service Restaurant	536	553	546	566	507	551	535	614	576	584	660	612	711	666	760	930	598
Full Service Restaurant	406	428	418	447	387	429	428	495	457	478	534	491	575	541	621	758	478
Hospital	149	155	149	154	147	145	152	160	137	150	160	140	163	147	165	184	155
Outpatient facility	221	225	233	227	212	227	216	233	230	219	232	228	239	233	239	258	230
Small Hotel	68	67	66	66	60	64	61	68	65	63	71	67	76	71	79	95	68
Large Hotel	105	115	107	125	111	113	121	138	130	135	151	144	164	159	181	214	132
Mid-rise Apartment	37	38	37	37	31	36	32	42	37	38	47	41	54	48	59	78	40

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Post-1980 Construction
Site Energy Use Intensities (EUIs) [kBtu/ft²/yr]
August 2012

	Miami	Houston	Phoenix	Atlanta	Los Angeles	Las Vegas	San Francisco	Baltimore	Albuquerque	Seattle	Chicago	Denver	Minneapolis	Helena	Duluth	Fairbanks
Climate Zone	1A	2A	2B	3A	3B	3B	3C	4A	4B	4C	5A	5B	6A	6B	7	8
Large Office	56	56	53	55	49	51	47	57	51	52	59	52	64	56	67	88
Medium Office	66	63	65	61	55	62	51	63	58	57	66	59	72	64	75	99
Small Office	70	67	69	66	57	65	56	67	64	60	72	67	78	72	82	110
Warehouse	14	24	23	32	18	27	25	45	37	36	59	49	78	65	93	151
Stand-alone Retail	89	93	91	101	75	91	85	114	100	101	130	113	150	134	166	236
Strip Mall	104	101	100	108	84	100	93	124	109	113	143	123	164	147	183	258
Primary School	71	69	68	70	60	67	63	74	68	68	81	71	88	80	94	137
Secondary School	70	68	66	68	51	64	57	78	66	71	88	73	101	87	110	164
Supermarket	179	195	182	205	174	188	195	223	203	213	240	219	259	242	279	348
Quick Service Restaurant	545	560	555	579	516	562	546	630	588	600	682	628	742	691	798	1,004
Full Service Restaurant	448	447	438	466	413	447	443	513	481	495	553	509	597	560	645	797
Hospital	176	180	178	179	172	174	166	181	163	170	181	164	182	167	183	207
Outpatient facility	282	272	289	274	271	282	250	272	269	259	275	266	279	270	278	317
Small Hotel	89	83	83	81	74	80	73	83	79	76	86	81	91	85	94	113
Large Hotel	138	144	134	150	129	137	137	163	150	154	176	164	190	181	205	250
Mid-rise Apartment	49	51	52	57	40	53	50	69	59	65	79	67	90	80	101	140

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Pre-1980 Construction
Site Energy Use Intensities (EUIs) [kBtu/ft²/yr]
August 2012

	Miami	Houston	Phoenix	Atlanta	Los Angeles	Las Vegas	San Francisco	Baltimore	Albuquerque	Seattle	Chicago	Denver	Minneapolis	Helena	Duluth	Fairbanks
Climate Zone	1A	2A	2B	3A	3B	3B	3C	4A	4B	4C	5A	5B	6A	6B	7	8
Large Office	58	59	55	59	50	53	49	64	53	58	60	52	66	58	69	90
Medium Office	73	70	76	70	56	72	53	72	67	61	71	66	79	72	83	113
Small Office	77	79	83	83	64	83	67	92	85	80	100	90	113	102	126	182
Warehouse	14	25	24	35	18	29	27	49	41	38	64	53	85	70	101	167
Stand-alone Retail	93	99	100	106	77	101	87	122	108	108	138	121	159	142	178	256
Strip Mall	100	107	108	114	84	108	95	133	116	119	150	131	172	154	194	278
Primary School	73	76	76	78	61	76	65	88	77	78	88	78	97	86	104	154
Secondary School	68	70	72	73	52	71	59	86	73	77	91	77	106	92	118	174
Supermarket	179	196	186	206	174	191	193	227	206	216	245	223	265	246	287	365
Quick Service Restaurant	586	610	602	634	548	612	582	700	645	654	755	691	826	761	893	1,127
Full Service Restaurant	452	477	469	498	419	480	461	552	507	522	596	545	646	603	707	889
Hospital	180	186	184	189	172	183	170	194	171	182	183	165	186	171	185	209
Outpatient facility	266	277	291	289	268	292	263	292	283	276	278	270	286	275	281	318
Small Hotel	80	76	76	73	69	73	66	73	71	67	73	70	77	72	78	94
Large Hotel	131	131	127	132	123	127	125	136	132	131	139	136	145	142	151	166
Mid-rise Apartment	47	54	54	62	40	57	53	77	64	73	86	73	99	88	115	161