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SPECTRAL CLASSES FOR FAA'S INTEGRATED NOISE MODEL VERSION 6.0

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Overview

The starting point in any empirical model such as the Federal Aviation Administration's (FAA) Integrated Noise Model (INM) is a reference data base. In Version 5.2 and in previous versions the reference data base consisted solely of a set of noise level data expressed as a function of aircraft power and aircraft-to-receiver distance, i.e., noise-power-distance (NPD) data. To accurately account for the inclusion of planned future physical propagation effects in INM, e.g., ground effects and terrain shielding, this noise level data in Version 6.0 was supplemented with frequency-based spectral data.

The spectral data for a majority of the civilian aircraft included within INM were taken from Reference 1. Presented in this reference for each aircraft is the one-third octave-band spectrum (50 Hz to 10 kHz) measured at the time of L_{ASmx} and corrected to a distance of 305m assuming the SAE AIR 1845 atmospheric absorption coefficients. Similar data for the military aircraft in INM were taken from the Noisefile Database in the United States Air Force's NOISEMAP computer program, used for computing noise exposure at facilities dominated by military operations. The military data also exist in the form of the one-third octave-band spectrum measured at the time of L_{ASmx} and corrected to a distance of 305m, assuming the SAE AIR 1845 atmospheric absorption coefficients. In addition, the raw data from previous Volpe Center helicopter noise measurement studies were reprocessed to obtain the one-third octave-band spectrum corrected to the same conditions as above. Note that these referenced helicopter noise measurement studies are the source of the noise-distance data which currently reside in FAA's Heliport Noise Model (HNM) Version 2.2. Although helicopters likely will not be included in INM in the near-term, such data were easily added to the scope of the development and are included for completeness. Table 1 details the sources of the spectral data included in INM Version 6.0.

Although the above references included spectral data for the majority of INM aircraft, there were fourteen, mostly older aircraft, for which spectral data were not available. For this reason it was decided that supporting a separate spectrum for each INM aircraft was not feasible. In addition, based on sensitivity tests, it was determined that maintaining separate spectral data for each

aircraft would result in a negligible improvement in computational accuracy. Consequently, the approach of grouping similar spectra seemed to offer a logical compromise.

As a result, an exhaustive set of sensitivity tests was conducted to identify spectra which could be grouped together, referred to herein as a ***spectral class***. Aircraft were first grouped together by engine type and/or number of engines (i.e., low-bypass ratio jet, high-bypass ratio jet, four engine jet, turboprop, piston, etc.), and then the groups were broken down further by spectral shape. Some groups were partitioned further to eliminate the presence of widely used aircraft in the same group. For instance, the 737300 and the MD80 were placed in separate groups even though their spectral shapes are similar.

Once the spectra were grouped together, a representative spectrum was detemined for the group. The representative spectrum for commercial aircraft was determined considering operational information contained in the 1995 Airport Activity Statistics of Certificated Air Carriers. Specifically, the total number of departures performed within the U.S. was determined for each commercial aircraft. The representative spectrum was then calculated from a departure-weighted arithmetic average of the individual aircraft spectra in the group.

The representative spectrum for military aircraft was determined considering 1997 fleet inventory data contained within the Aerospace Source Book. Because inventory data does not necessarily reflect usage, each spectral class is represented by the single military aircraft which had the highest number in inventory. This inventory data included the Air Force, Air Force Reserve, Air National Guard, Army, Army Reserve & National Guard, Navy, Marine Corps, and Coast Guard.

Because helicopters and some single and twin engine turboprops and turbojets (i.e., business jets) have commercial, military, and private usages, there is no single body of inventory or usage data. Therefore, it was not feasible to choose a single aircraft spectrum to be representative of the entire group or to weight the average of the individual spectra. Therefore, the representative spectrum for helicopters and business jets was calculated using an equally-weighted arithmetic

average of all of the individual aircraft spectra. Table 2 summarizes the aircraft included within each spectral class and their weighting towards the representative spectrum.

INM Version 6.0 contains 72 unique spectral classes. In total, there are 31 classes for departure (classes 101-131), 34 classes for approach (classes 201-234), and 7 classes for level flyover (classes 301-307, applicable to helicopters only). The attached pages show plots of the representative spectrum for each spectral class and summarize the aircraft included within.

Table 1. Source of Spectral Data for INM Aircraft

AIRCRAFT ID	NOISE ID	SPECTRAL ID	SOURCE OF SPECTRAL DATA
707	JT4A	JT4A	Reference 1
707120	JT3D	JT3D	Reference 1
707320	JT3D	JT3D	Reference 1
707QN	JT3DQ	JT3DQ	Reference 1
720	JT4A	JT4A	Reference 1
720B	JT3D	JT3D	Reference 1
727100	3JT8D	3JT8D	Reference 1
727200	3JT8D	3JT8D	Reference 1
727D15	3JT8D	3JT8D	Reference 1
727D17	3JT8DQ	3JT8DQ	Reference 1
727EM1	3JT8E7	3JT8DQ	Substitution
727EM2	3JT8E5	3JT8DQ	Substitution
727Q15	3JT8DQ	3JT8DQ	Reference 1
727Q7	3JT8DQ	3JT8DQ	Reference 1
727Q9	3JT8DQ	3JT8DQ	Reference 1
727QF	TAY651	3JT8DQ	Substitution
737	2JT8D	2JT8D	Reference 1
737300	CFM563	CFM563	Reference 1
7373B2	CFM563	CFM563	Reference 1
737400	CFM563	CFM563	Reference 1
737500	CFM563	CFM563	Reference 1
737D17	2JT8DQ	2JT8DQ	Reference 1
737QN	2JT8DQ	2JT8DQ	Reference 1
747100	JT9DBD	JT9DBD	Reference 1
74710Q	JT9DFL	JT9DFL	Reference 1
747200	JT9DFL	JT9DFL	Reference 1
74720A	JT9D7Q	JT9DFL	Substitution
74720B	JT9D7Q	JT9DFL	Reference 1
747400	PW4056	JT9DFL	Substitution
747SP	JT9DFL	JT9DFL	Reference 1
757PW	PW2037	RR535E	Substitution
757RR	RR535E	RR535E	Reference 1
767300	2CF680	2CF680	Reference 1
767CF6	2CF680	2CF680	Reference 1
767JT9	2CF680	2CF680	Reference 1
777200	GE9076	GE9076	Manufacturer
A300	2CF650	2CF650	Reference 1
A310	2CF650	2CF650	Reference 1
A320	CFM565	2CF650	Substitution
A7D	TF41	TF41	Reference 2
BAC111	2JT8D	2JT8D	Reference 1

AIRCRAFT ID	NOISE ID	SPECTRAL ID	SOURCE OF SPECTRAL DATA
BAE146	AL502R	AL502R	Reference 1
BAE300	AL502R	AL502R	Reference 1
BEC58P	TSIO52	TSIO52	Reference 1
C130	T56A15	T56A15	Reference 1
CIT3	TF7313	TF7313	Reference 1
CL600	AL502L	AL502L	Reference 1
CL601	CF34	CF34	Reference 1
CNA441	TPE331	TPE331	Reference 1
CNA500	JT15D1	JT15D1	Reference 1
COMJET	CGAJ	CGAJ	Reference 1
COMSEP	CGASEP	CGASEP	Reference 1
CONCRD	OLY593	OLY593	Reference 1
CVR580	501D13	501D13	Reference 1
DC1010	CF66D	CF66D	Reference 1
DC1030	CF66D	CF66D	Reference 1
DC1040	CF66D	CF66D	Reference 1
DC3	2R2800	4R2800	Substitution
DC6	4R2800	4R2800	Reference 1
DC820	JT4A	JT4A	Reference 1
DC850	JT3D	JT3D	Reference 1
DC860	JT3D	JT3D	Reference 1
DC870	CFM562	CFM562	Reference 1
DC8QN	JT3DQ	JT3D	Reference 1
DC910	2JT8D	2JT8D	Reference 1
DC930	2JT8D	2JT8D	Reference 1
DC950	2JT8DQ	2JT8DQ	Reference 1
DC9Q7	2JT8DQ	2JT8DQ	Reference 1
DC9Q9	2JT8DQ	2JT8DQ	Reference 1
DHC6	PT6A27	PT6A27	Reference 1
DHC6QP	RAISQP	RAISQP	Manufacturer
DHC7	PT6A50	PT6A50	Reference 1
DHC8	PW120	PT6A50	Substitution
DHC830	PW120	PT6A50	Reference 1
F10062	TAY620	3JT8DQ	Substitution
F10065	TAY650	3JT8DQ	Substitution
F28MK2	RB183	RB183	Reference 1
F28MK4	RB183P	RB183	Substitution
FAL20	CF700	CF700	Reference 1
GASEPF	SEPFP	SEPFP	Reference 1
GASEPV	SEPVP	SEPVP	Reference 1
GIIB	SP5118	SP5118	Reference 1
GIV	TAY620	3JT8DQ	Reference 1

AIRCRAFT ID	NOISE ID	SPECTRAL ID	SOURCE OF SPECTRAL DATA
HS748A	RDA532	RDA532	Reference 1
IA1125	TF7313	TF7313	Reference 1
KC135	J57	J57	Reference 1
KC135B	JT3D	JT3D	Reference 1
L1011	RB2112	RB2112	Reference 1
L10115	RB2112	RB2112	Reference 1
L188	T56A7	T56A7	Reference 1
LEAR25	CJ610	CJ610	Reference 1
LEAR35	TF7312	TF7312	Reference 1
MD11GE	2CF68D	2CF680	Substitution
MD11PW	PW4460	2CF680	Substitution
MD81	2JT8D2	2JT8D2	Reference 1
MD82	2JT8D2	2JT8D2	Reference 1
MD83	2JT8D2	2JT8D2	Reference 1
MU3001	JT15D5	JT15D5	Reference 1
SABR80	CF700	CF700	Reference 1
SD330	PT6A45	PT6A45	Reference 1
SF340	CT75	CT75	Reference 1
A109	A109	A109	Reference 11
B206L	B206L	B206L	Reference 10
B212	B212	B212	Reference 11
B222	B222	B222	Reference 3
BO150	BO150	BO150	Reference 11
CH47D	CH47D	CH47D	Reference 9
H500D	H500D	H500D	Reference 5
S61	S61	S61	Reference 11
S65	S65	S65	Reference 11
S70	S70	S70	Reference 11
S76	S76	S76	Reference 8
SA330	SA330	SA330	Reference 11
SA341	SA341	SA341	Reference 11
SA350	SA350	SA350	Reference 7
SA355	SA355	SA355	Reference 6
SA365	SA365	SA365	Reference 4
A10A	AGE100	AGE100	Reference 2
A3	GE-8	GE-8	Reference 2
A37	J8517A	J8517A	Reference 2
A4C	J52P8A	J52P8A	Reference 2
A5C	GE-10	GE-10	Reference 2
A6A	J52P8B	J52P8B	Reference 2
A7E	TF41A2	TF41A2	Reference 2
AV8A	AV-8A	AV-8A	Reference 2

AIRCRAFT ID	NOISE ID	SPECTRAL ID	SOURCE OF SPECTRAL DATA
AV8B	RR-408	RR-408	Reference 2
B1	GE-102	GE-102	Reference 2
B2A	GE-110	GE-110	Reference 2
B52BDE	J57P19	J57P19	Reference 2
B52G	J57P43	J57P43	Reference 2
B52H	B-52H	B-52H	Reference 2
B57E	J57P5	J57P5	Reference 2
BUCCAN	RB168	RB168	Reference 2
C118	RCB17	RCB17	Reference 2
C119L	C-119	C-119	Reference 2
C12	PT6A41	PT6A41	Reference 2
C121	C-121	C-121	Reference 2
C123K	R2800	R2800	Reference 2
C130AD	C-130A	C-130A	Reference 2
C-130E	T56-15	T56-15	Reference 2
C130HP	C-130H	C-130H	Reference 2
C131B	R99W	R99W	Reference 2
C135A	J5759W	J5759W	Reference 2
C135B	J5759	J5759	Reference 2
C137	JT3D3B	JT3D3B	Reference 2
C140	TFE731	TFE731	Reference 2
C141A	TF33P7	TF33P7	Reference 2
C17	PW-100	PW-100	Reference 2
C18A	JT4111	JT4111	Reference 2
C-20	MK6118	MK6118	Reference 2
C21A	TFE73B	TFE73B	Reference 2
C22	TRS181	TRS181	Reference 2
C23	PT6R65	PT6R65	Reference 2
C5A	TF39GE	TF39GE	Reference 2
C7A	PW123	PW123	Reference 2
C9A	JT8D9	JT8D9	Reference 2
CANBER	AVON	AVON	Reference 2
DOMIN	VIPER	VIPER	Reference 2
E3A	PW100A	PW100A	Reference 2
E4	CF650E	CF650E	Reference 2
E8A	JT3D3	JT3D3	Reference 2
EA6B	P4A	P4A	Reference 2
F-111F	F111F	F111F	Reference 2
F100D	J57P21	J57P21	Reference 2
F101B	J57P55	J57P55	Reference 2
F102	J57P23	J57P23	Reference 2
F104G	GE11A	GE11A	Reference 2

AIRCRAFT ID	NOISE ID	SPECTRAL ID	SOURCE OF SPECTRAL DATA
F105D	J75P19	J75P19	Reference 2
F106	J57P17	J57P17	Reference 2
F111AE	TF30P1	TF30P1	Reference 2
F111D	F111D	F111D	Reference 2
F117A	GEF1D2	GEF1D2	Reference 2
F14A	TF30P4	TF30P4	Reference 2
F14B	GE400	GE400	Reference 2
F15A	PW100	PW100	Reference 2
F15E20	PW2205	PW2205	Reference 2
F15E29	PW2295	PW2295	Reference 2
F16A	PW200	PW200	Reference 2
F16GE	GE100	GE100	Reference 2
F16PW0	PW220	PW220	Reference 2
F16PW9	PW229	PW229	Reference 2
F-18	GE404	GE404	Reference 2
F-4C	J79651	J79651	Reference 2
F5AB	GE-13	GE-13	Reference 2
F5E	GE21B	GE21B	Reference 2
F8	J57P20	J57P20	Reference 2
FB111A	FB111A	FB111A	Reference 2
HARRIE	PEGAS	PEGAS	Reference 2
HAWK	ADOUR	ADOUR	Reference 2
HS748	DART	DART	Reference 2
HUNTER	RA28	RA28	Reference 2
JAGUAR	JAGUA	JAGUA	Reference 2
KC10A	CFG50C	CFG50C	Reference 2
KC-135	F108CF	F108CF	Reference 2
KC97L	R43659	R43659	Reference 2
LIGHTN	302C	302C	Reference 2
MD9025	V2525	V2525	Manufacturer
MD9028	V2525	V2525	Manufacturer
NIMROD	SPEY	SPEY	Reference 2
OV10A	T76	T76	Reference 2
P3A	T56A14	T56A14	Reference 2
PHANTO	PHANTO	PHANTO	Reference 2
PROVOS	VIP11	VIP11	Reference 2
S3A&B	TF346E	TF346E	Reference 2
SR71	JT11D2	JT11D2	Reference 2
T-38A	TJ85	TJ85	Reference 2
T1	JT15DM	JT15DM	Reference 2
T29	T-29	T-29	Reference 2
T-2C	J856E4	J856E4	Reference 2

AIRCRAFT ID	NOISE ID	SPECTRAL ID	SOURCE OF SPECTRAL DATA
T3	AEIO54	AEIO54	Reference 2
T33A	J3335	J3335	Reference 2
T34	PT6A25	PT6A25	Reference 2
T37B	J69T25	J69T25	Reference 2
T39A	GEJ85	GEJ85	Reference 2
T41	O320E2	O320E2	Reference 2
T42	IO-550	IO-550	Reference 2
T-43A	T-43A	T-43A	Reference 2
T44	T-44	T-44	Reference 2
T45	F405RR	F405RR	Reference 2
TORNAD	RB1993	RB1993	Reference 2
TR1	J75P1B	J75P1B	Reference 2
U2	J75P13	J75P13	Reference 2
U21	PT6A20	PT6A20	Reference 2
U4B	540B1A	540B1A	Reference 2
U6	R985	R985	Reference 2
U8F	C480	C480	Reference 2
VC10	CONWY	CONWY	Reference 2
VICTOR	VICTO	VICTO	Reference 2
VULCAN	RROLYM	RROLYM	Reference 2
YC14	CF650D	CF650D	Reference 2
YC15	JT8D17	JT8D17	Reference 2
C130E	T56A7	T56A7	Reference 2
KC135R	CFM56A	CFM56A	Reference 2
F4C	J79	J79	Reference 2

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TABLE 2. SUMMARY OF SPECTRAL CLASSES

TAKEOFF				
Group ID	Description	Aircraft ID	Noise ID	Weight
101 (Fig.1)	Two and Three engine low bypass ratio turbofan aircraft	727100 / 727200 / 727D15 / 727D17 / 727EM1 / 727EM2 / 727Q15 / 727Q7 / 727Q9 / 727QF / 737 / 737D17 / 737QN / DC9Q9 / DC910 / DC930 / DC950 / DC9Q7 / F10062 / F10065 / GIV	*3JT8D / 3JT8DQ / 3JT8E7 / 3JT8E5 / TAY651 / 2JT8D / 2JT8DQ / TAY620 / TAY650*	0.93
		DC1010 / DC1030 / DC1040 / L1011 / L10115	*CF66D / RB2112*	0.07
		DC93HW / DC93LW	*2JT8DH / 2JT8DL*	(late addition)
102 (Fig.2)	Two engine high bypass ratio turbofan aircraft	737300 / 7373B2 / 737400 / 737500	*CFM563*	1.00
103 (Fig.3)	Two engine high bypass ratio turbofan aircraft	757PW / 757RR / 767300 / 767CF6 / 767JT9 / A300 / A310 / A320	*PW2037 / RR535E / 2CF680 / 2CF650 / CFM565 / 2CF68D / PW4460*	1.00
104 (Fig.4)	Two engine high bypass ratio turbofan aircraft	MD81 / MD82 / MD83	*2JT8D2*	0.93
		F28MK2 / F28MK4 / GIIB	*RB183 / RB183P / SP5118*	0.07
		737N17 / 737N19	*2JT8DN*	(late addition)
105 (Fig.5)	Two engine high bypass ratio turbofan aircraft	MD9025 / MD9028	*V2525*	0.77
		777200	*GE9076*	0.23
106 (Fig.6)	Four engine turbofan aircraft and supersonic turbojet aircraft	DC870	*CFM562*	0.66
		707QN / DC8QN	*JT3DQ*	0.34
		CONCRD	*OLY593*	0.00
107 (Fig.7)	Four engine turbofan aircraft	74710Q / 747200 / 74720A / 74420B / 747400 / 747SP	*JT9DFL / JT9D7Q / PW4056*	0.24

TAKEOFF				
Group ID	Description	Aircraft ID	Noise ID	Weight
		747100	*JT9DBD*	0.58
		707120 / 707320 / 720B / DC850 / DC860	*JT3D*	0.18
		707 / 720 / DC820	*JT4A*	0.00
108 (Fig.8)	Four engine turbofan aircraft	BAE146 / BAC111 / BAE300	*AL502R*	1.00
109 (Fig.9)	Two engine turboprop; one and two engine piston aircraft	DHC6 / DHC6QP	*PT6A27*	0.76
		SD330 / JPATS	*PT6A45 / PT6A68*	0.03
		GASEPF / GASEPV / BEC58P	*TSIO52 / SEPFP / SEPVP*	0.21
		COMSEP	*CGASEP*	0.00
110 (Fig.10)	Two engine turboprop; two and four engine piston aircraft	SF340	*CT75*	0.54
		HS748A	*RDA532*	0.43
		DC3 / DC6	*4R2800 / 2R2800*	0.03
111 (Fig.11)	Two engine turboprop aircraft	CNA441	*TPE331*	1.00
		C12 / C23 / T44 / U21	*PT6A41 / PT6R65 / T-44 / PT6A20*	0.00
112 (Fig.12)	Four engine turboprop aircraft	L188 / CVR580	*501D13 / T56A7*	1.00
		DHC7 / DHC8 / DHC830	*PT6A50 / PW120*	0.00
		C-130E / C130 / C130AD / C130E / C130HP	*T56A15 / C-130A / T56-15 / C-130H / T56A7*	0.00
113 (Fig.13)	Two engine turbojet and turbofan business aircraft	LEAR25	*CJ610*	0.10
		LEAR35	*TF7312*	0.10
		FAL20 / SABR80	*CF700*	0.10

TAKEOFF				
Group ID	Description	Aircraft ID	Noise ID	Weight
		CNA500	*JT15D1*	0.10
		MU3001	*JT15D5*	0.10
		IA1125 / CIT3	*TF7313*	0.10
		CL600	*AL502L*	0.10
		CL601	*CF34*	0.10
		EMB145	*AE3007*	0.10
		COMJET	*CGAJ*	0.10
114 (Fig.14)	Helicopter	B212		0.33
		BO150		0.33
		S70		0.33
115 (Fig.15)	Helicopter	B222		0.33
		A109		0.33
		SA350		0.33
116 (Fig.16)	Helicopter	SA355		0.33
		S65		0.33
		H500D		0.33
117 (Fig.17)	Helicopter	SA365		0.50
		SA341		0.50
118 (Fig.18)	Helicopter	SA330		0.50
		S61		0.50

TAKEOFF				
Group ID	Description	Aircraft ID	Noise ID	Weight
119 (Fig.19)	Helicopter	CH47D S76		0.50 0.50
120 (Fig.20)	Helicopter	B206L		1.00
121 (Fig.21)	Military aircraft	KC97L	*R43659*	0.00
		P3C	T56-14	1.00
		P3A	*T56A14*	0.00
		SR71	*JT11D2*	0.00
122 (Fig.22)	Military aircraft	C118 / C123K / C131B	*RCB17 / R2800 / R99W*	1.00
		T29	*T-29*	0.00
		YC14	*CF650D*	0.00
123 (Fig.23)	Military aircraft	OV10A	*T76*	0.00
		T3 / T34 / T41 / T42 / U6 / U8F	*AEIO54 / PT6A25 / O320E2 / IO-550 / R985 / C480*	1.00
124 (Fig.24)	Military aircraft	KC-135 / KC135B / KC135 / KC135R	*J57 / F108CF / CFM56A*	1.00
		PROVOS	*VIP111*	0.00
		T1	*JT15DM*	0.00
		T45	*F405RR*	0.00
125 (Fig.25)	Military aircraft	C119L	*C-119*	0.00
		C121	*C-121*	0.00
		C7A	*PW123*	0.00
		C-20	*MK6118*	1.00

TAKEOFF				
Group ID	Description	Aircraft ID	Noise ID	Weight
		LIGHTN	*302C*	0.00
		PHANTO	*PHANTO*	0.00
		VULCAN	*RROLYM*	0.00
126 (Fig.26)	Military aircraft	A7E / A7D	*TF41 / TF41A2*	0.00
		B1	*GE-102*	0.00
		B57E	*J57P5*	0.00
		C135A	*J5759W*	0.00
		C17	*PW-100*	0.00
		C22 / C9A	*TRS181 / JT8D9*	0.00
		C21A	TF373B	0.00
		E3A	*PW100A*	0.00
		E4	*CF650E*	0.00
		F15A / F15E20 / F15E29	*PW100 / PW2205 / PW2295*	0.00
		F16PW9	*PW229*	1.00
		F16GE	*GE100*	0.00
		F16PW0	*PW220*	0.00
		F-18	*GE404*	0.00
		F18EF	*F18EF*	0.00
		F16A	*PW200*	0.00
		FB111A	*FB111A*	0.00

TAKEOFF				
Group ID	Description	Aircraft ID	Noise ID	Weight
		KC10A	*CFG50C*	0.00
		T37B	*JT69T25*	0.00
		T-43A	*T-43A*	0.00
		U4B	*540B1A*	0.00
		VC10	*CONWY*	0.00
		VICTOR	*VICTO*	0.00
127 (Fig.27)	Military aircraft	A4C	*J52P8A*	0.00
		A5C	*GE-10*	0.00
		B2A	*GE-110*	0.00
		B52BDE / B52G	*J57P19 / J57P43*	0.00
		CANBER	*AVON*	0.00
		C140 / T39A	*TF3731 / GEJ85*	0.00
		C141A	*TF33P7*	1.00
		F106	J57P17	0.00
		F111AE / F111D / F-111F	*F111F / TF30P1 / F111D*	0.00
		F104G	*GE11A*	0.00
		F100D / F102 / F8	*J57P21 / J57P23 / J57P20*	0.00
		F117A	*GEF1D2*	0.00
		F14A	*TF30P4*	0.00
		F4C / F-4C	*J79651 / J79*	0.00

TAKEOFF				
Group ID	Description	Aircraft ID	Noise ID	Weight
		HARRIE	*PEGAS*	0.00
		HAWK	*ADOUR*	0.00
		HS748	*DART*	0.00
		HUNTER	*RA28*	0.00
		JAGUAR	*JAGUA*	0.00
		T33A	*J3335*	0.00
		YC15	*JT8D17*	0.00
128 (Fig.28)	Military aircraft	A10A	*AGE100*	0.00
		A3	*GE-8*	0.00
		A37	J8517A	0.00
		A6A / EA6B	*J52P8B / P4A*	0.00
		AV8A	*AV-8A*	0.00
		AV8B	*RR-408*	0.00
		BUCCAN	*RB168*	0.00
		DOMIN	*VIPER*	0.00
		F101B	*J57P55*	0.00
		F105D / TR1 / U2	*J57P19 / J75P1B / J75P13*	0.00
		F14B	*GE400*	0.00
		NIMROD	*SPEY*	0.00
		T-38A	*TJ85*	1.00

TAKEOFF				
Group ID	Description	Aircraft ID	Noise ID	Weight
		T-2C	*J856E4*	0.00
		TORNAD	*RB1993*	0.00
129 (Fig.29)	Military aircraft	S3A&B	*TF346E*	1.00
130 (Fig.30)	Military aircraft	B52H	*B-52H*	0.00
		C135B / C137	*J5759 / JT3D3B*	0.00
		C18A / E8A	*JT4111 / JT3D3*	1.00
131 (Fig.31)	Military aircraft	C5A	*TF39GE*	1.00
		F5E / F5AB	GE-13 / GE21B	0.00

APPROACH				
Group ID	Description	Aircraft ID	Noise ID	Weight
201 (Fig.32)	Two and Three engine low bypass ratio turbofan aircraft	727100 / 727200 / 727D15 / 727D17 / 727EM1 / 727EM2 / 727Q15 / 727Q7 / 727Q9 / 727QF / 737 / 737D17 / 737QN / DC9Q9 / DC910 / DC930 / DC950 / DC9Q7 / F10062 / F10065 / GIV	*3JT8D / 3JT8DQ / 3JT8E7 / 3JT8E5 / TAY651 / 2JT8D / 2JT8DQ / TAY620 / TAY650*	1.00
		DC93HW / DC93LW	*2JT8DH / 2JT8DL*	(late addition)
202 (Fig.33)	Two engine high bypass ratio turbofan aircraft; two engine turbojet business aircraft	737300 / 7373B2 / 737400 / 737500	*CFM563*	1.00
		LEAR25	*CJ610*	0.00
203 (Fig.34)	Two engine high bypass ratio turbofan aircraft; two engine turbofan business aircraft	757PW / 757RR / 767300 / 767CF6 / 767JT9 / A300 / A310 / A320	*PW2037 / RR535E / 2CF680 / 2CF650 / CFM565 / 2CF68D / PW4460*	0.82
		DC1010 / DC1030 / DC1040 / L1011 / L10115	*CF66D / RB2112*	0.18
		FAL20 / SABR80	*CF700*	0.00
		MU3001	*JT15D5*	0.00
204 (Fig.35)	Two engine high bypass ratio turbofan aircraft	MD81 / MD82 / MD83	*2JT8D2*	1.00
		737N17 / 737N19	2JT8DN	(late addition)
205 (Fig.36)	Two engine high bypass ratio turbofan aircraft	MD9025 / MD9028	*V2525*	0.50
		777200	*GE9076*	0.50
206 (Fig.37)	Four engine turbojet and turbofan aircraft	DC870	*CFM562*	0.56
		BAE146 / BAC111 / BAE300	*AL502R*	0.44
		CONCRD	*OLY593*	0.00
207 (Fig.38)	Four engine turbofan aircraft	74710Q / 747200 / 74720A / 74720B / 747400 / 747SP	*JT9DFL / JT9D7Q / PW4056*	1.00

APPROACH				
Group ID	Description	Aircraft ID	Noise ID	Weight
208 (Fig.39)	Four engine turbojet and turbofan aircraft	DC8QN / 707QN	*JT3DQ*	0.75
		707120 / 707320 / 720B / DC850 / DC860	*JT3D*	0.25
		707 / 720 / DC820	*JT4A*	0.00
209 (Fig.40)	Four engine turbofan aircraft	747100	*JT9DBD*	1.00
210 (Fig.41)	Two engine turboprop aircraft	DHC6 / DHC6QP / CNA441	*PT6A27/TPE331*	1.00
211 (Fig.42)	Two engine turboprop aircraft	SF340	*CT75*	0.90
		SD330 / JPATS	*PT6A45/PT6A68*	0.10
212 (Fig.43)	Two engine turboprop aircraft	HS748A	*RDA532*	1.00
213 (Fig.44)	Four engine turboprop and piston aircraft	DC3 / DC6	*4R2800 / 2R2800*	1.00
		DHC7 / DHC8 / DHC830	*PT6A50 / PW120*	0.00
214 (Fig.45)	Two and four engine turboprop aircraft	L188 / CVR580	*501D13 / T56A7*	1.00
215 (Fig.46)	One and two engine piston aircraft	GASEPF / GASEPV / BEC58P	*TSIO52 / SEPFP / SEPVP*	1.00
		COMSEP	CGASEP	0.00
216 (Fig.47)	Two engine turbojet and turbofan business aircraft	F28MK2 / F28MK4 / GIIB	*RB183 / RB183P / SP5118*	0.125
		LEAR35	*TF7312*	0.125
		CNA500	*JT15D1*	0.125
		IA1125 / CIT3	*TF7313*	0.125
		CL600	*AL502L*	0.125

APPROACH				
Group ID	Description	Aircraft ID	Noise ID	Weight
		CL601	*CF34*	0.125
		EMB145	*AE3007*	0.125
		COMJET	*CGAJ*	0.125
217 (Fig.48)	Helicopter	A109		0.33
		BO150		0.33
		H500D		0.33
218 (Fig.49)	Helicopter	SA330		0.33
		B222		0.33
		S70		0.33
219 (Fig.50)	Helicopter	S76		0.20
		SA350		0.20
		SA341		0.20
		S61		0.20
		S65		0.20
220 (Fig.51)	Helicopter	SA365		0.50
		SA355		0.50
221 (Fig.52)	Helicopter	CH47D		0.50
		B212		0.50
222 (Fig.53)	Helicopter	B206L		1.00

APPROACH				
Group ID	Description	Aircraft ID	Noise ID	Weight
223 (Fig.54)	Military Aircraft	A10A	*AGE100*	0.00
		B52H	*B-52H*	0.00
		C135B	*J5759*	0.00
		C137	*JT3D3B*	0.00
		C141A	*TF33P7*	1.00
		F14A	*TF30P4*	0.00
		S3A&B	*TF346E*	0.00
224 (Fig.55)	Military Aircraft	B2A	*GE-110*	0.00
		C17	*PW-100*	0.00
		C18A / E8A	*JT4111 / JT3D3*	1.00
		C5A	*TF39GE*	0.00
		C22 / C9A	*TRS181 / JT8D9*	0.00
		E3A	*PW100A*	0.00
		E4	*CF650E*	0.00
		T-43A	*T-43A*	0.00
		HS748	*DART*	0.00
		T1	*JT15DM*	0.00
		KC10A	*CFG50C*	0.00
225 (Fig.56)	Military Aircraft	C119L	*C-119*	0.00
		C121	*C-121*	0.00

APPROACH				
Group ID	Description	Aircraft ID	Noise ID	Weight
		C7A	*PW123*	0.00
		KC97L	*R43659*	0.00
		P3A	*T56A14*	0.00
		P3C	*T56-14*	0.00
		T3 / T42 / U8F	*AEIO54 / IO-550 / C480*	1.00
		YC14	*CF650D*	0.00
226 (Fig.57)	Military Aircraft	SR71	*JT11D2*	0.00
		T34 / T41 / U6	*PT6A25 / O320E2 / R985*	1.00
227 (Fig.58)	Military Aircraft	A5C	*GE-10*	0.00
		C118 / C123K / T29	*RCB17 / R2800 / T-29*	0.00
		C131B	*R99W*	0.00
		T45	*F405RR*	1.00
228 (Fig.59)	Military Aircraft	C12 / C23 / T44 / U21	PT6A41 / PT6R65 / T-44 / PT6A20	0.00
		C21A	*TF373B*	0.00
		F15A / F15E20 / F15E29	*PW100 / PW2205 / PW2295*	1.00
		OV10A	*T76*	0.00
		U4B	540B1A	0.00
229 (Fig.60)	Military Aircraft	B1	*GE-102*	0.00
		F16PW0	*PW220*	1.00
		C-20	*MK6118*	0.00

APPROACH				
Group ID	Description	Aircraft ID	Noise ID	Weight
		F111AE / F111D / F-111F	*TF30P1 / F111D / F11F*	0.00
		F16A	*PW200*	0.00
		FB111A	*FB111A*	0.00
		PHANTO	*PHANTO*	0.00
230 (Fig.61)	Military Aircraft	A3 / F100D / F101B / F102 / F8	*GE-8 / J57P21 / J57P55 / J57P23 / J57P20*	0.00
		A4C	*J52P8A*	0.00
		A7E / A7D	*TF41 / TF41A2*	0.00
		B52BDE / B52G	*J57P19 / J57P43*	0.00
		B57E	*J57P5*	0.00
		BUCCAN	*RB168*	0.00
		C135A	*J5759W*	1.00
		C140 / T39A	*TF3731 / GEJ85*	0.00
		CANBER	*AVON*	0.00
		HUNTER	*RA28*	0.00
		JAGUAR	*JAGUA*	0.00
		LIGHTN	*302C*	0.00
		PROVOS	*VIP111*	0.00
		T-2C	*J856E4*	0.00
		VICTOR	*VICTO*	0.00

APPROACH				
Group ID	Description	Aircraft ID	Noise ID	Weight
231 (Fig.62)	Military Aircraft	A37	*J8517A*	0.00
		AV8A	*AV-8A*	0.00
		AV8B	*AV-8B*	0.00
		DOMIN	*VIPER*	0.00
		F104G	*GE11A*	0.00
		F5A / F5E	*GE13 / GE21B*	0.00
		HARRIE	*PEGAS*	0.00
		HAWK	*ADOUR*	0.00
		T33A	*J3335*	0.00
		T-38A	*TJ85*	1.00
		VC10	*CONWY*	0.00
		YC15	*JT8D17*	0.00
232 (Fig.63)	Military Aircraft	F18A	*GE404*	1.00
		F18EF	*F18EF*	0.00
		T37B	*JT69T25*	0.00
		F16PW9	*PW229*	0.00
		F16GE	*GE100*	0.00
		F14B	*GE400*	0.00
233 (Fig.64)	Military Aircraft	A6A / EA6B	*J52P8B / P4A*	1.00
		F105D / TR1	*J57P19 / J75P1B*	0.00

APPROACH				
Group ID	Description	Aircraft ID	Noise ID	Weight
		F106	*J57P17*	0.00
		F117A	*GEF1D2*	0.00
		F4C	*J79651 / J79*	0.00
		KC135R	*J57*	0.00
		NIMROD	*SPEY*	0.00
		TORNAD	*RB1993*	0.00
		VULCAN	*RROLYM*	0.00
		U2	*J57P13*	0.00
234 (Fig.65)	Military Aircraft	C130-E / C130 / C130AD / C130E / C130HP	*T56A15 / C-130A / T56-15 / C-130H / T56A7*	1.00

FLYOVER				
Group ID	Aircraft Description	Aircraft ID	Noise ID	Weight
301 (Fig.66)	Helicopter	A109		0.25
		SA355		0.25
		SA350		0.25
		BO150		0.25
302 (Fig.67)	Helicopter	S76		0.33
		SA341		0.33
		SA365		0.33
303 (Fig.68)	Helicopter	S61		0.50
		SA330		0.50
304 (Fig.69)	Helicopter	H500D		0.33
		B222		0.33
		B212		0.33
305 (Fig.70)	Helicopter	S65		0.50
		S70		0.50
306 (Fig.71)	Helicopter	CH47D		1.00
307 (Fig.72)	Helicopter	B206L		1.00

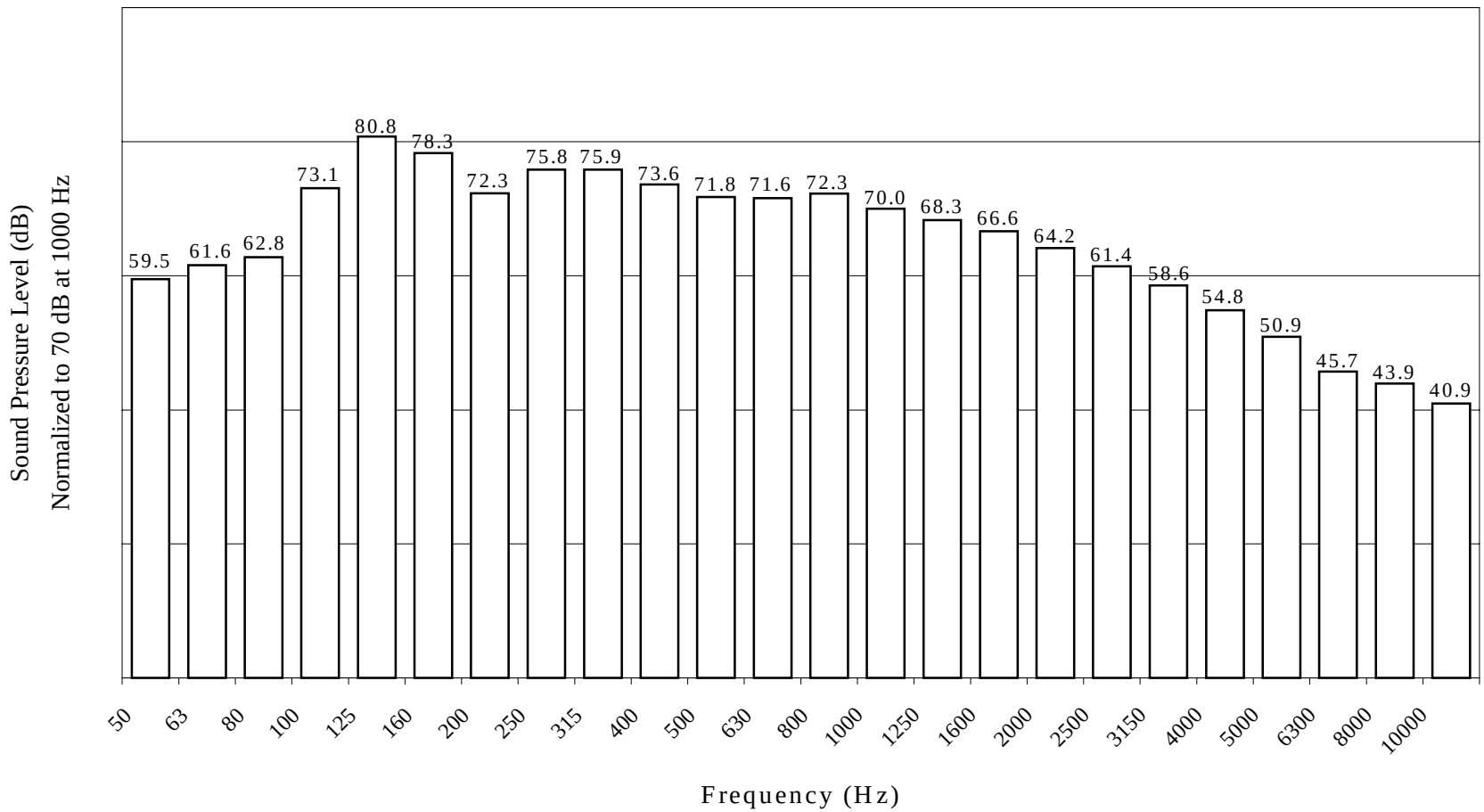

FIGURE 1. DEPARTURE SPECTRAL CLASS 101

INM Aircraft Descriptions:	Two and Three engine low bypass ratio turbofan aircraft
INM Aircraft ID:	727100 / 727200 / 727D15 / 727D17 / 727EM1 / 727EM2 / 727Q15 / 727Q7 / 727Q9 / 727QF / 737 / 737D17 / 737QN / DC9Q9 / DC910 / DC930 / DC950 / DC9Q7 / F10062 / F10065 / GIV DC1010 / DC1030 / DC1040 / L1011 / L10115 DC93LW / DC93HW

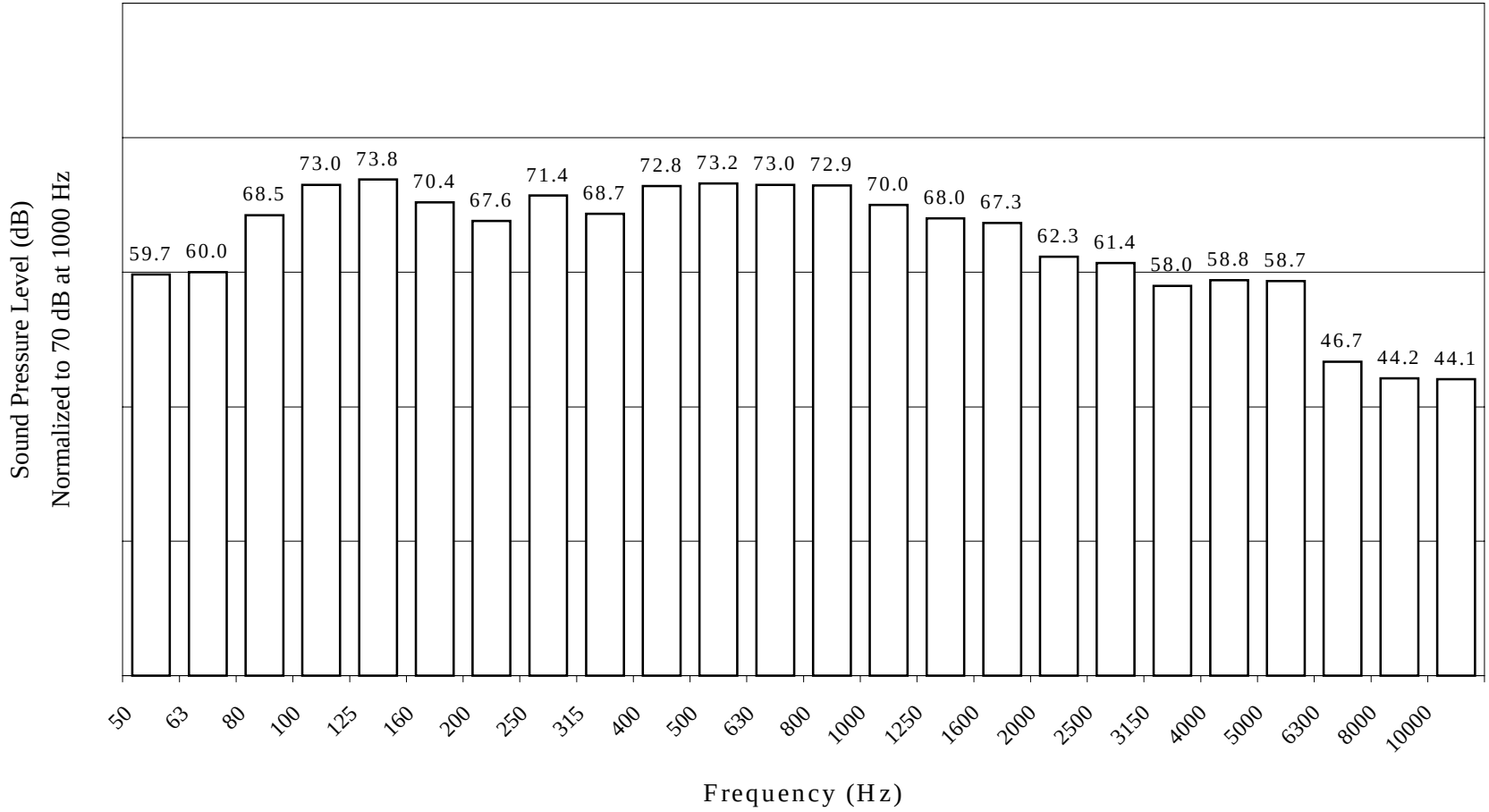

FIGURE 2. DEPARTURE SPECTRAL CLASS 102

INM Aircraft Descriptions:	Two engine high bypass ratio turbofan aircraft
INM Aircraft ID:	737300 / 7373B2 / 737400 / 737500

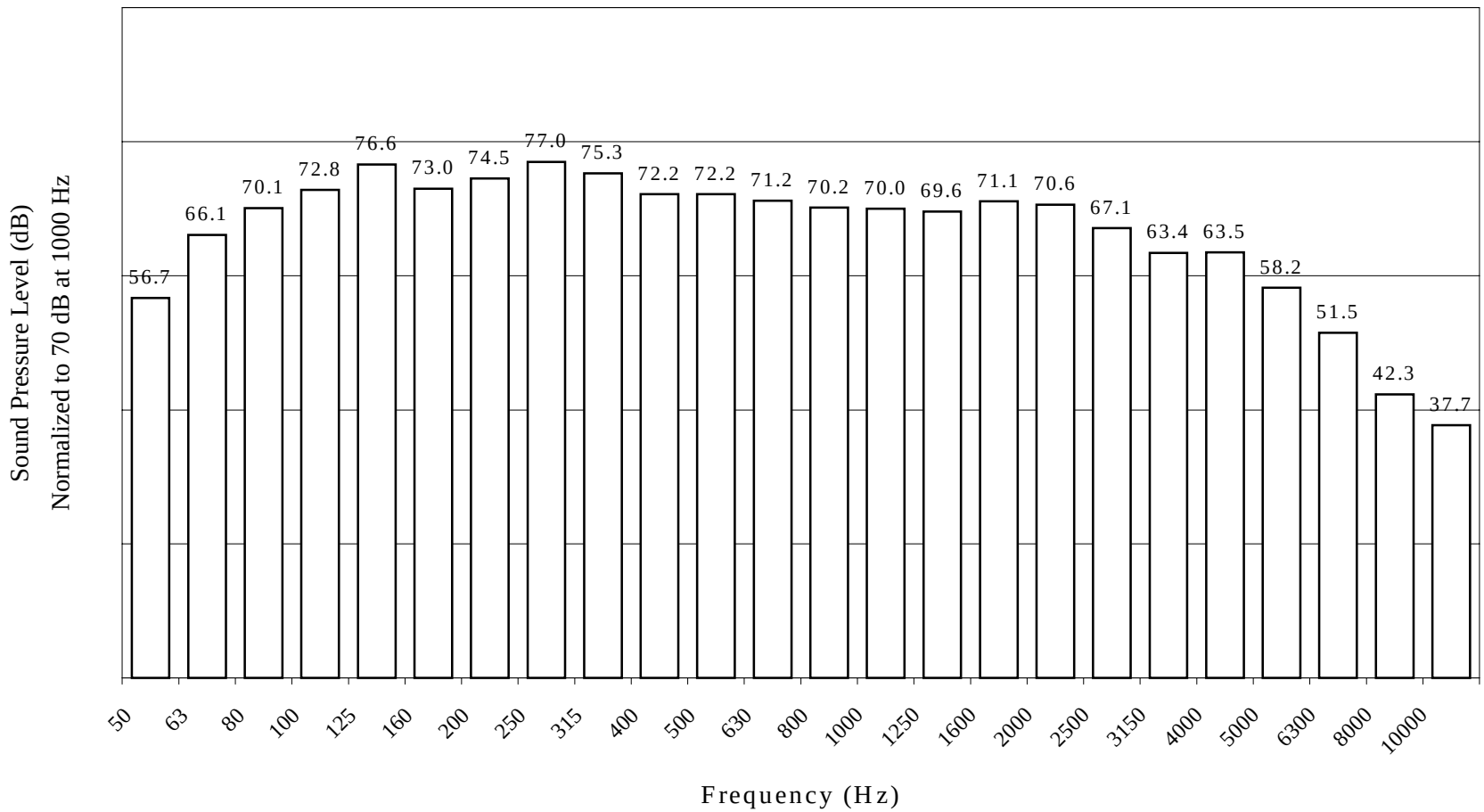

FIGURE 3. DEPARTURE SPECTRAL CLASS 103

INM Aircraft Descriptions:	Two engine high bypass ratio turbofan aircraft
INM Aircraft ID:	757PW / 757RR / 767300 / 767CF6 / 767JT9 / A300 / A310 / A320

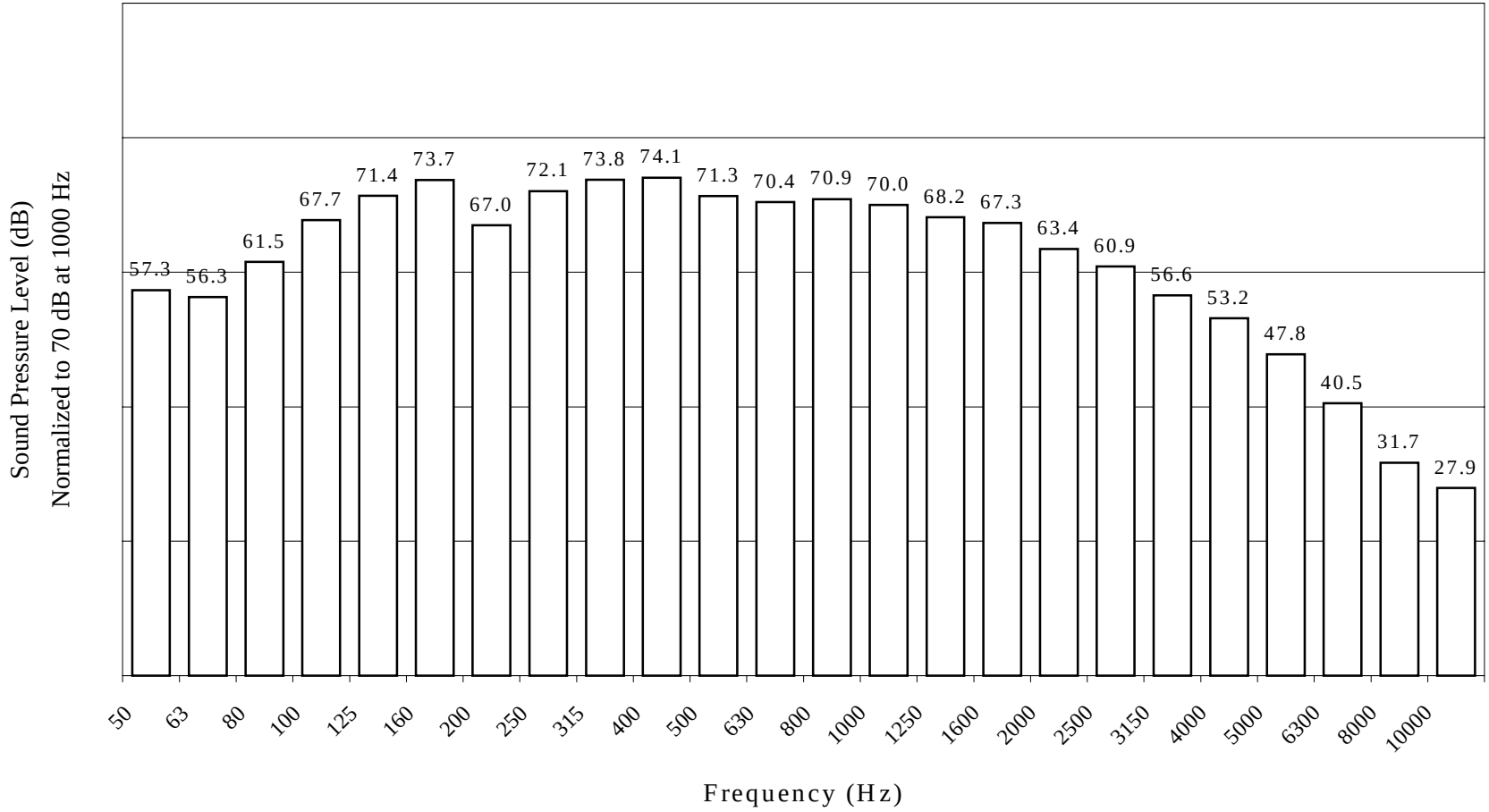

FIGURE 4. DEPARTURE SPECTRAL CLASS 104

INM Aircraft Descriptions:	Two engine high bypass ratio turbofan aircraft
INM Aircraft ID:	MD81 / MD82 / MD83
	F28MK2 / F28MK4 / GIIB
	737N17 / 737N19

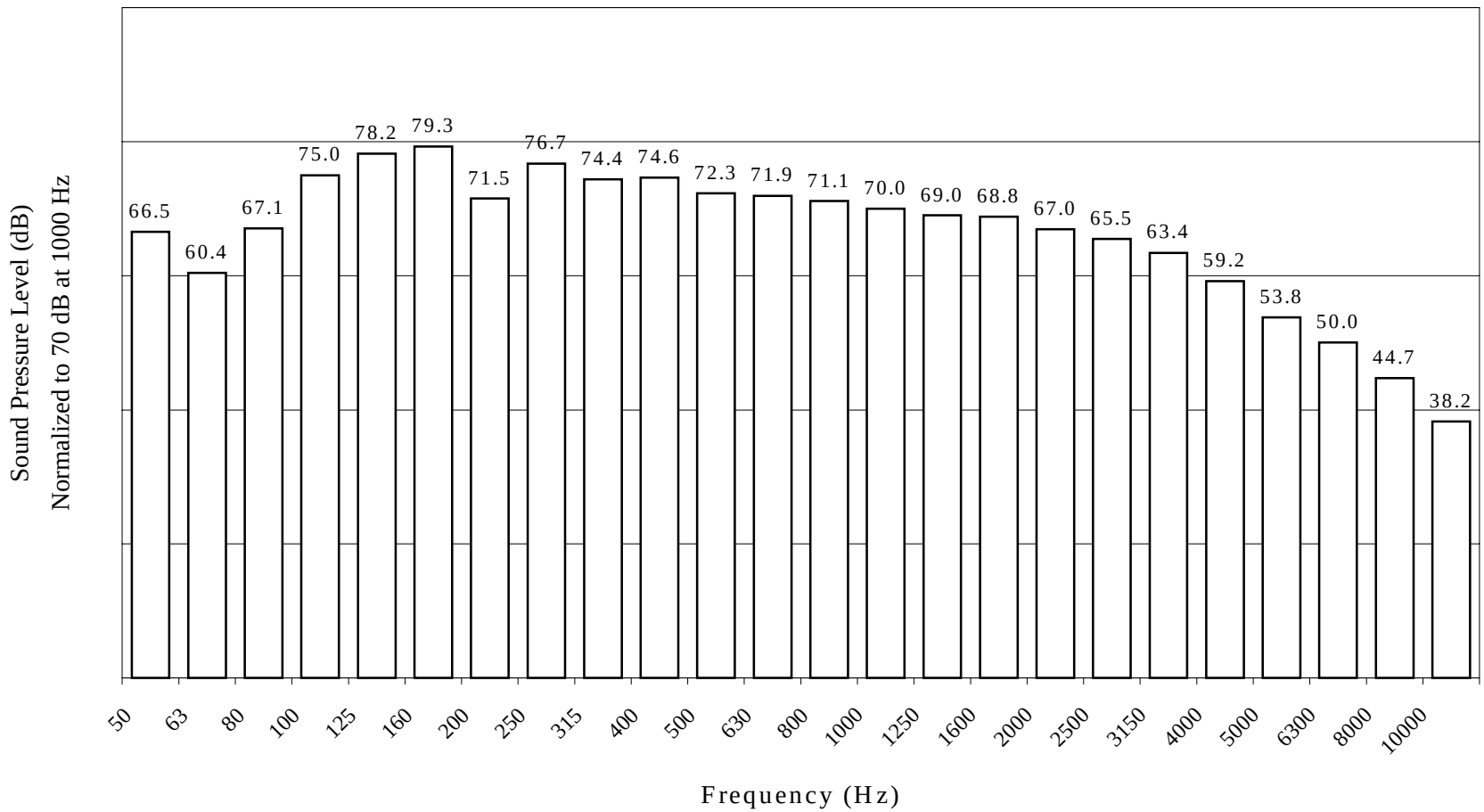

FIGURE 5. DEPARTURE SPECTRAL CLASS 105

INM Aircraft Descriptions:	Two engine high bypass ratio turbofan aircraft
INM Aircraft ID:	MD9025 / MD9028
	777200

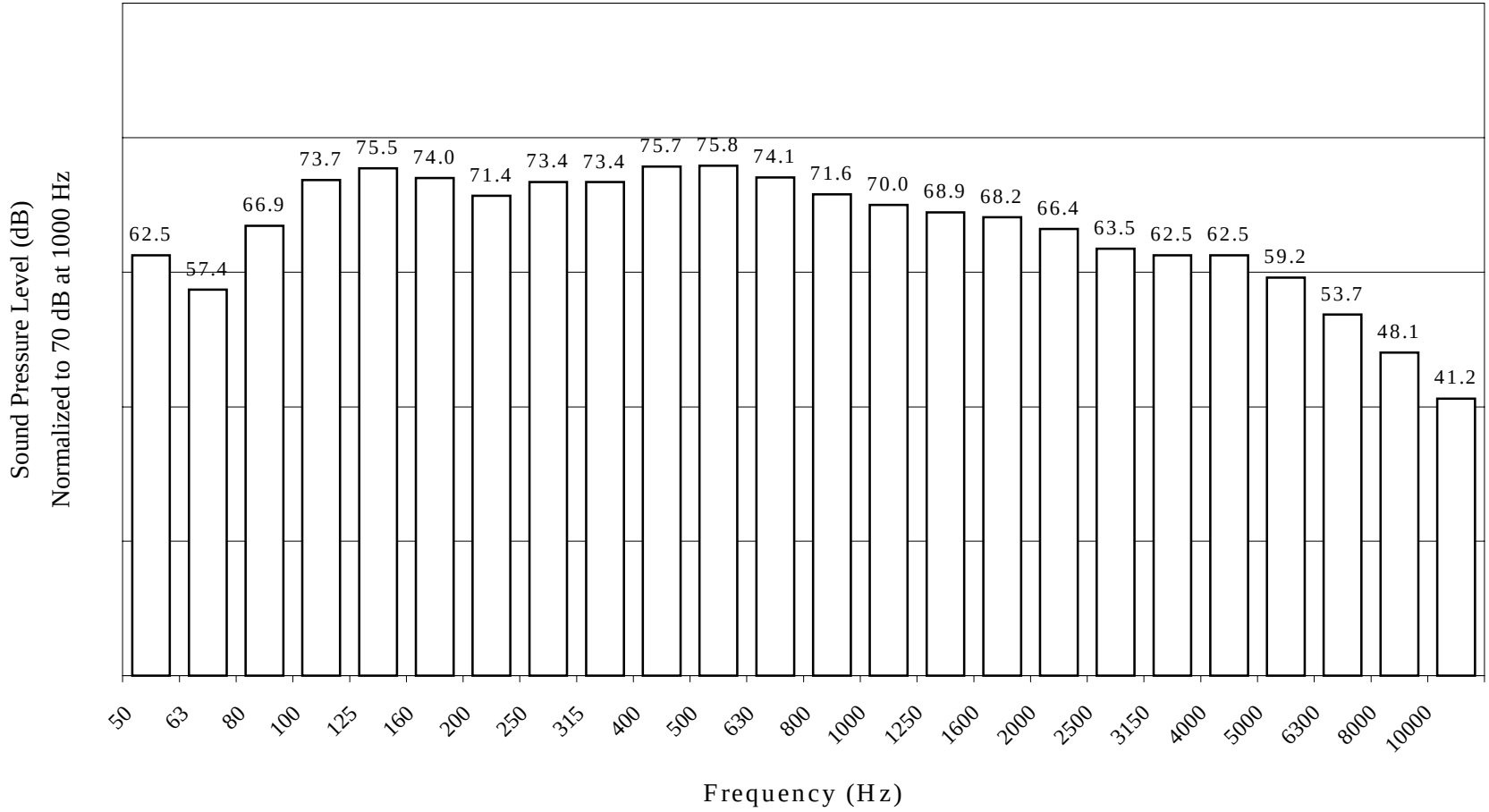

FIGURE 6. DEPARTURE SPECTRAL CLASS 106

INM Aircraft Descriptions:	Four engine turbofan and supersonic turbojet aircraft
INM Aircraft ID:	DC870
	707QN / DC8QN
	CONCRD

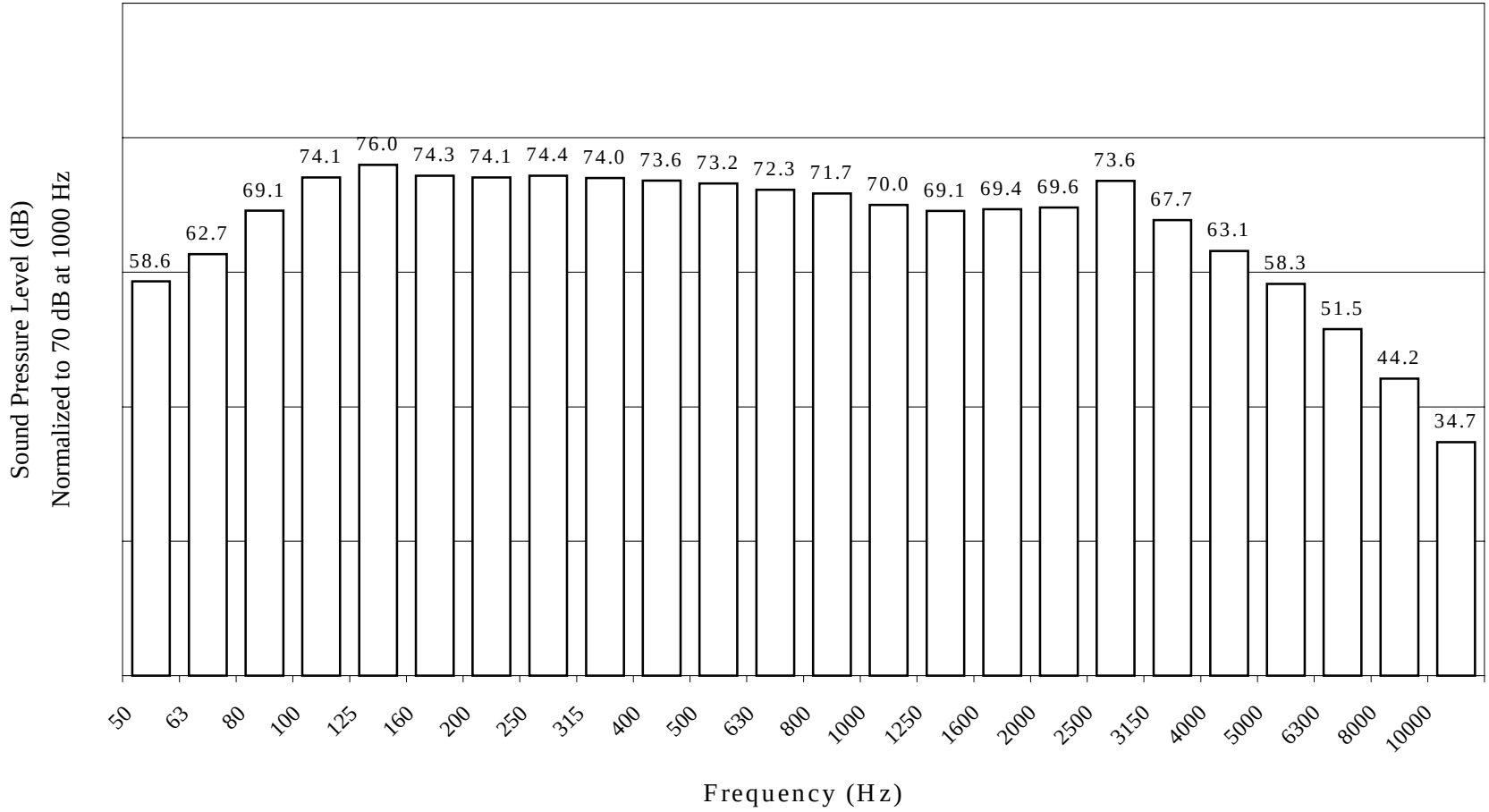

FIGURE 7. DEPARTURE SPECTRAL CLASS 107

INM Aircraft Descriptions:	Four engine turbofan aircraft
INM Aircraft ID:	74710Q / 747200 / 74720A / 74720B / 747400 / 747SP747100
	707120 / 707320 / 720B / DC850 / DC860 707 / 720 / DC820

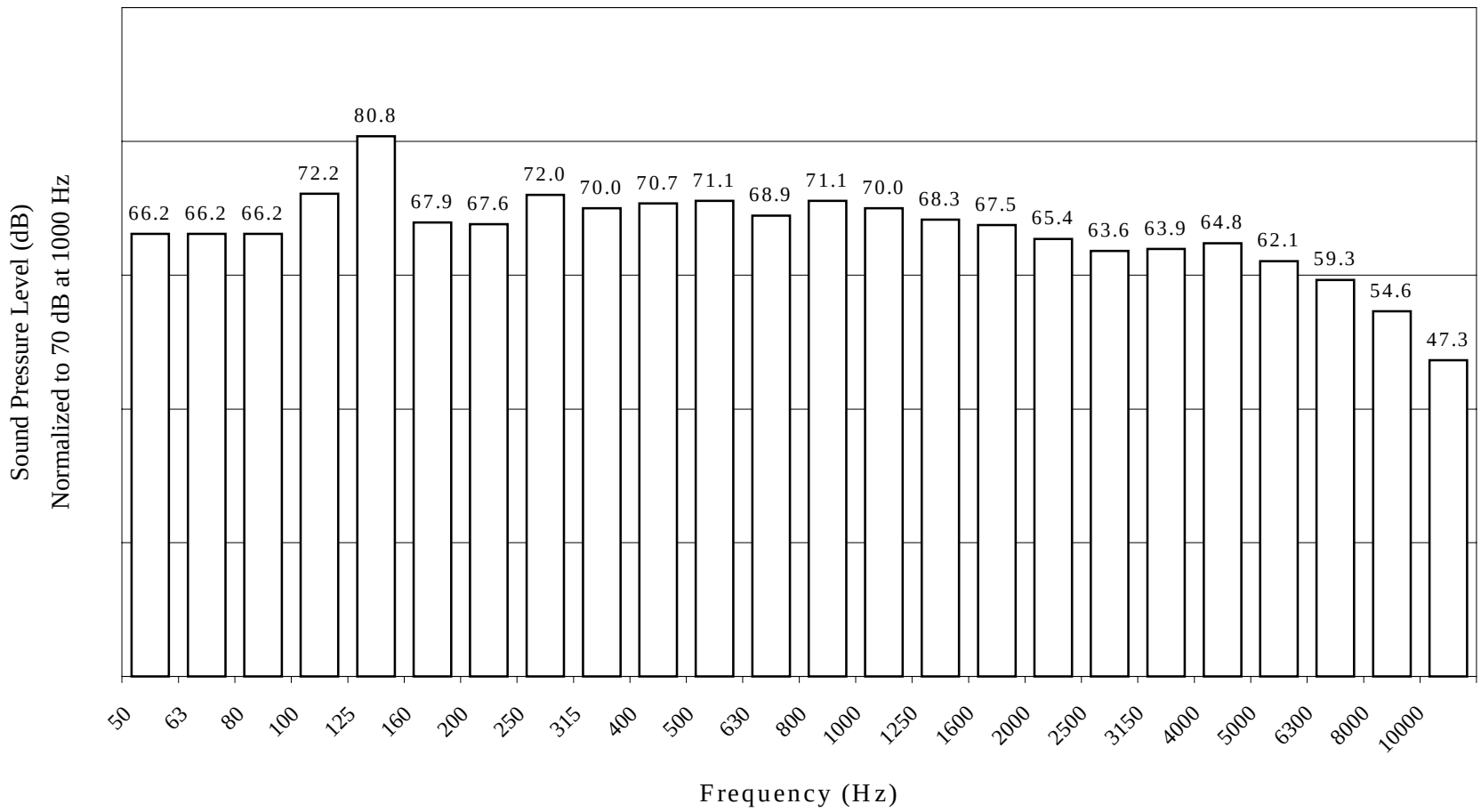

FIGURE 8. DEPARTURE SPECTRAL CLASS 108

INM Aircraft Descriptions:	Four engine turbofan aircraft
INM Aircraft ID:	BAE146 / BAC111 / BAE300

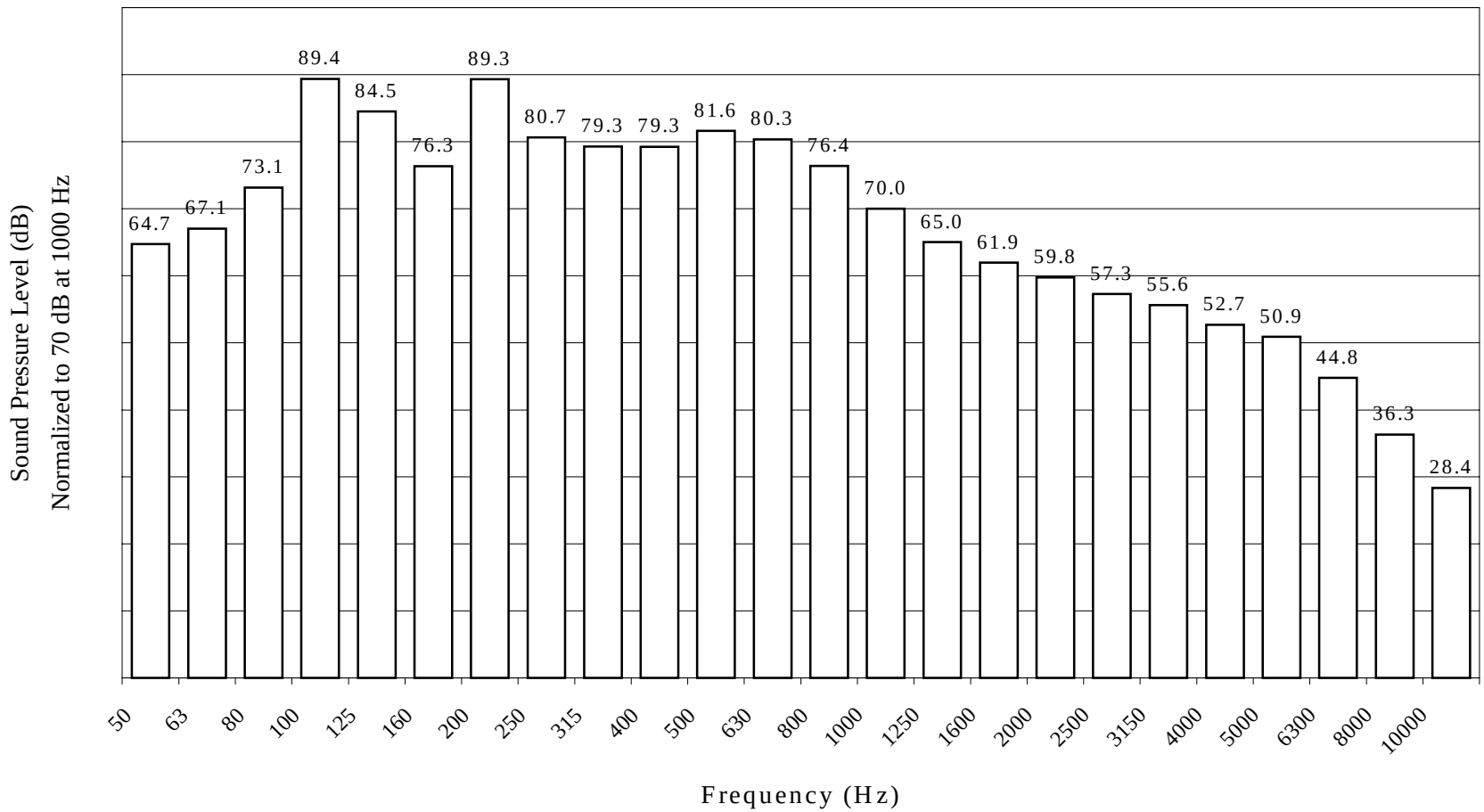

FIGURE 9. DEPARTURE SPECTRAL CLASS 109

INM Aircraft Descriptions:	Two engine turboprop; one and two engine piston aircraft
INM Aircraft ID:	DHC6 / DHC6QP
	SD330 / JPATS
	GASEPF / GASEPV/ BEC58P
	COMSEP

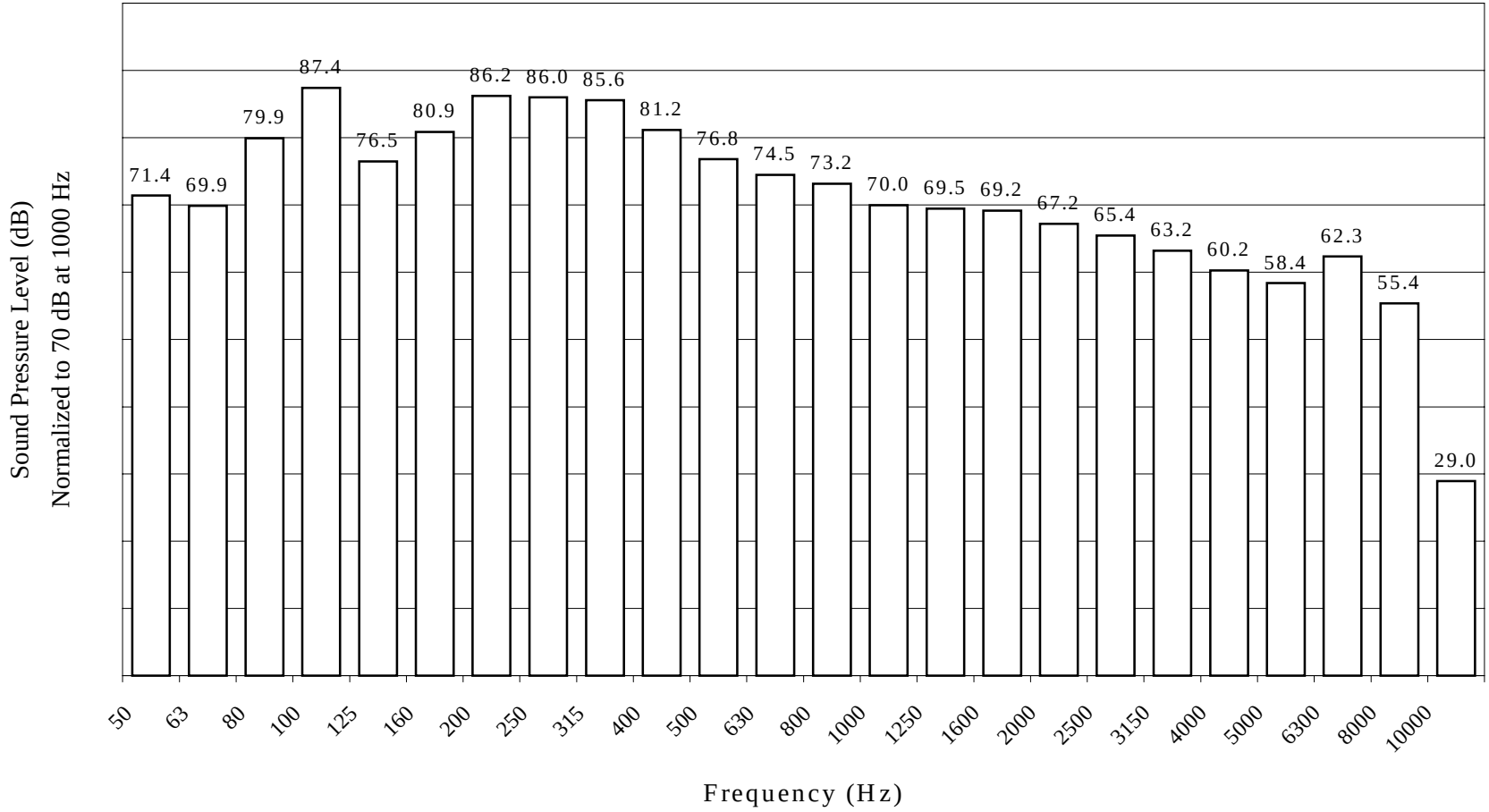

FIGURE 10. DEPARTURE SPECTRAL CLASS 110

INM Aircraft Descriptions:	Two engine turboprop; two and four engine piston aircraft
INM Aircraft ID:	SF340
	HS748A
	DC3 / DC6

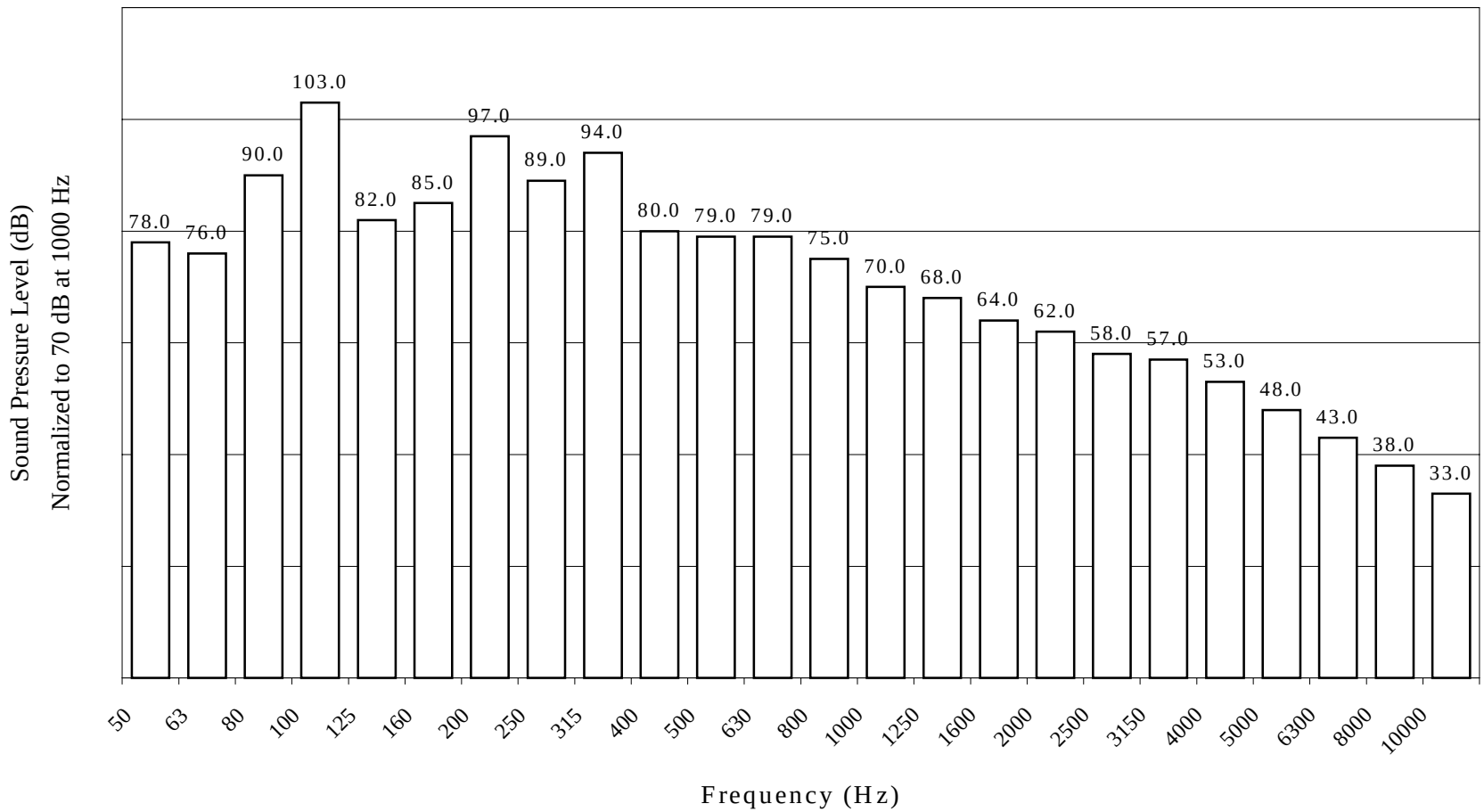

FIGURE 11. DEPARTURE SPECTRAL CLASS 111

INM Aircraft Descriptions:	Two engine turboprop aircraft
INM Aircraft ID:	CNA441
	C12 / C23 / T44 / U21

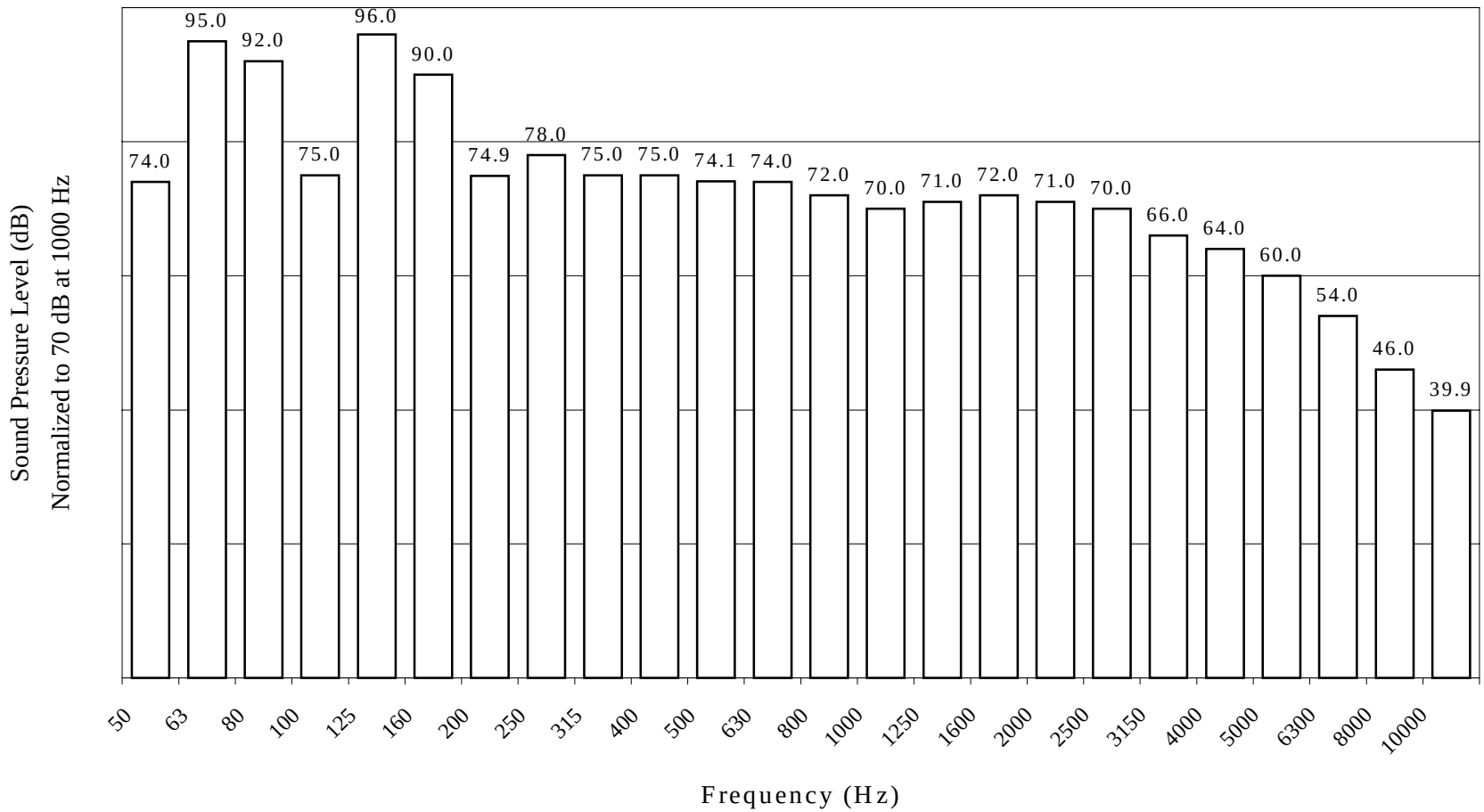

FIGURE 12. DEPARTURE SPECTRAL CLASS 112

INM Aircraft Descriptions:	Four engine turboprop aircraft
INM Aircraft ID:	L188 / CVR580
	DHC7 / DHC8 / DHC830
	C-130E / C130 / C130AD / C130E / C130HP

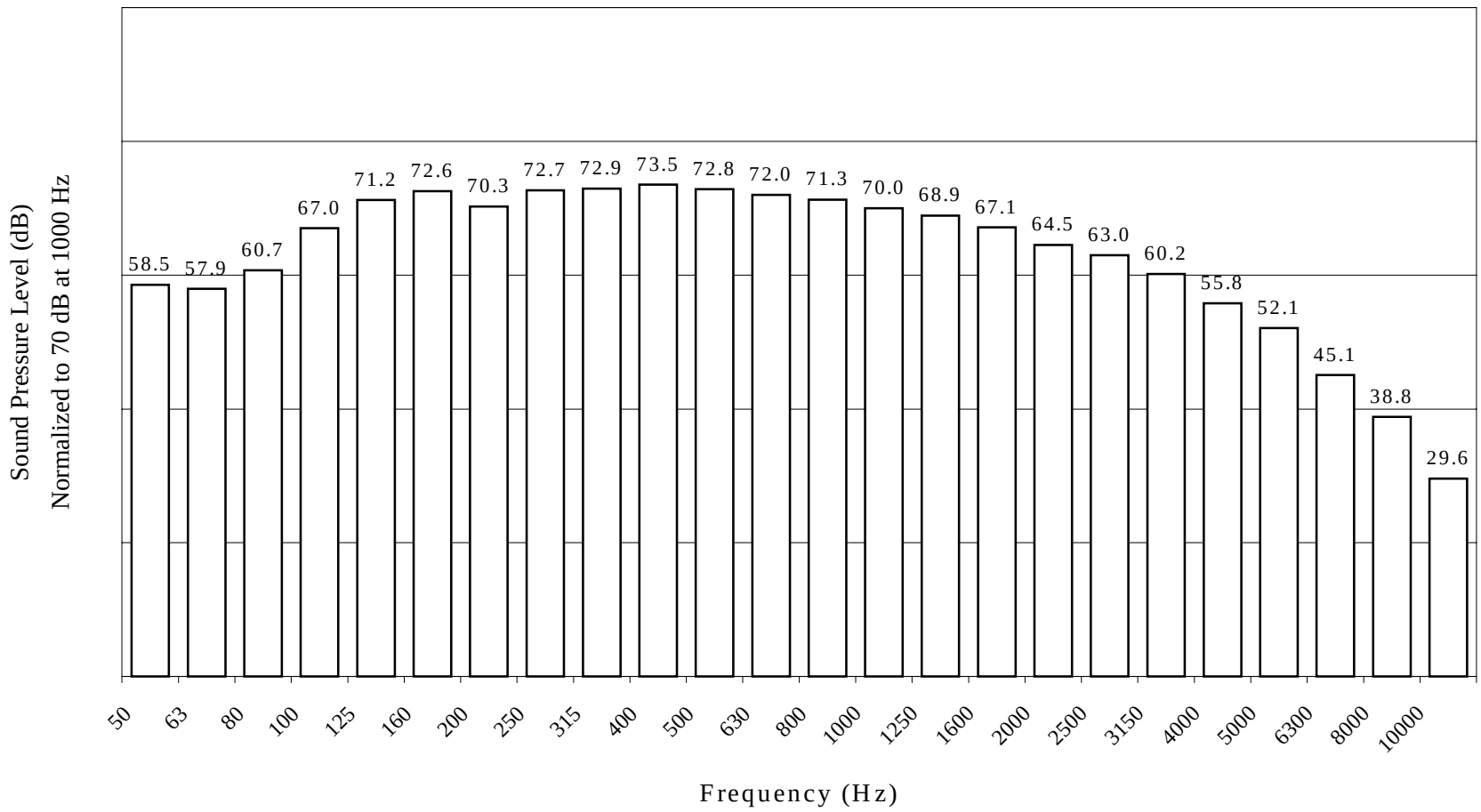

FIGURE 13. DEPARTURE SPECTRAL CLASS 113

INM Aircraft Descriptions:	Two engine turbojet and turbofan business aircraft		
INM Aircraft ID:	LEAR25	MU3001	EMB145
	LEAR35	IA1125 / CIT3	COMJET
	FAL20 / SABR80	CL600	
	CNA500	CL601	

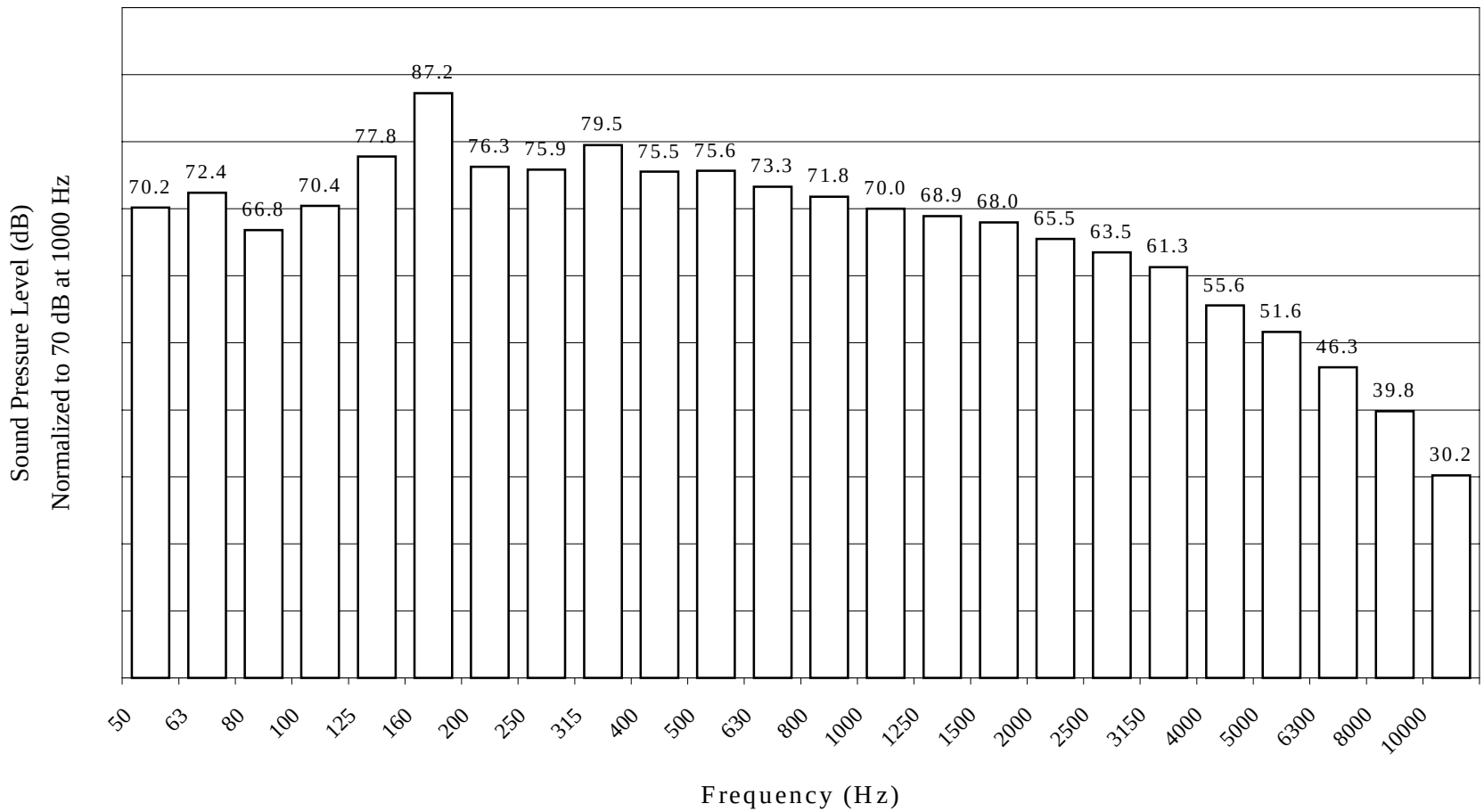

FIGURE 14. DEPARTURE SPECTRAL CLASS 114

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	B212
	BO150
	S70

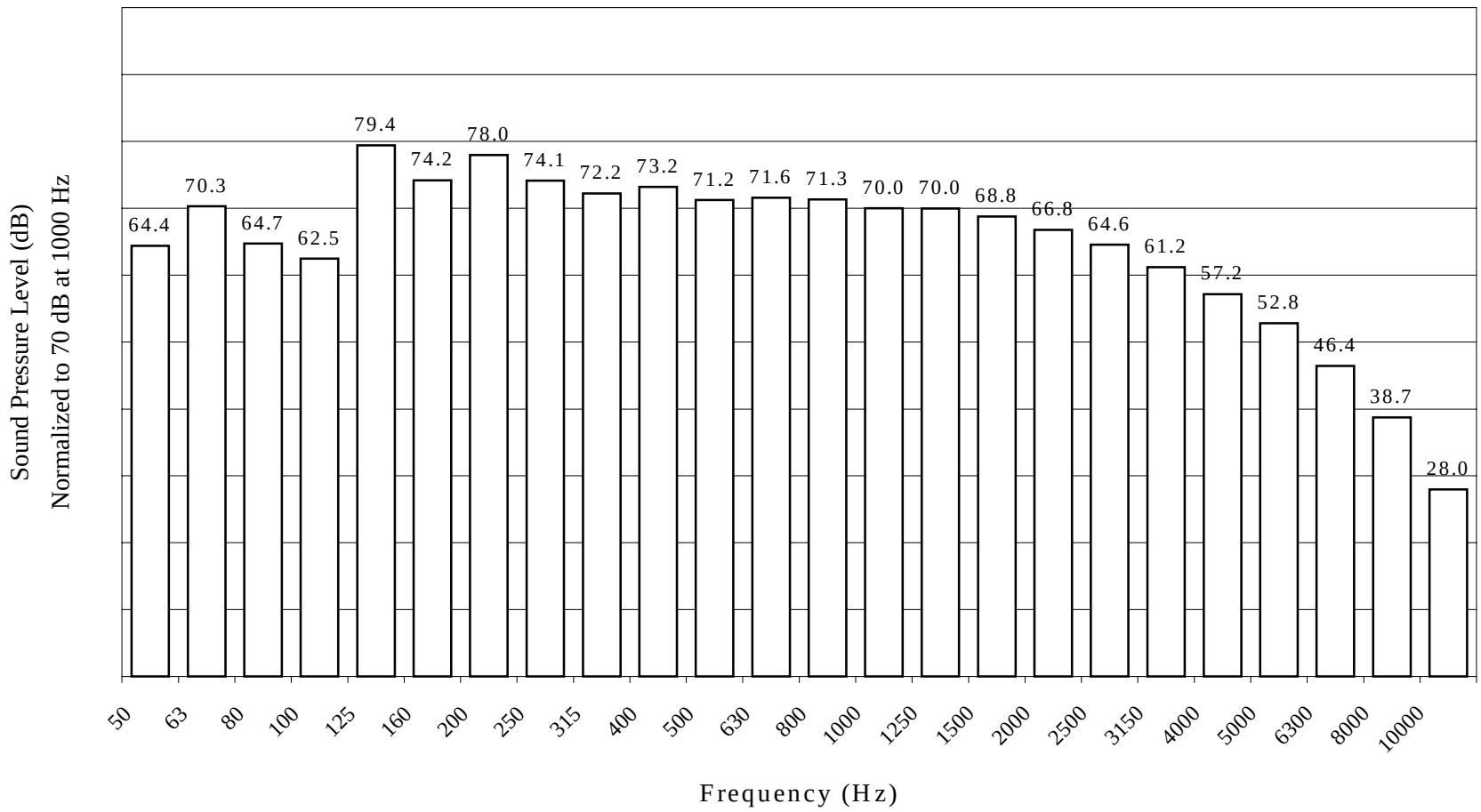

FIGURE 15. DEPARTURE SPECTRAL CLASS 115

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	B222
	A109
	SA350

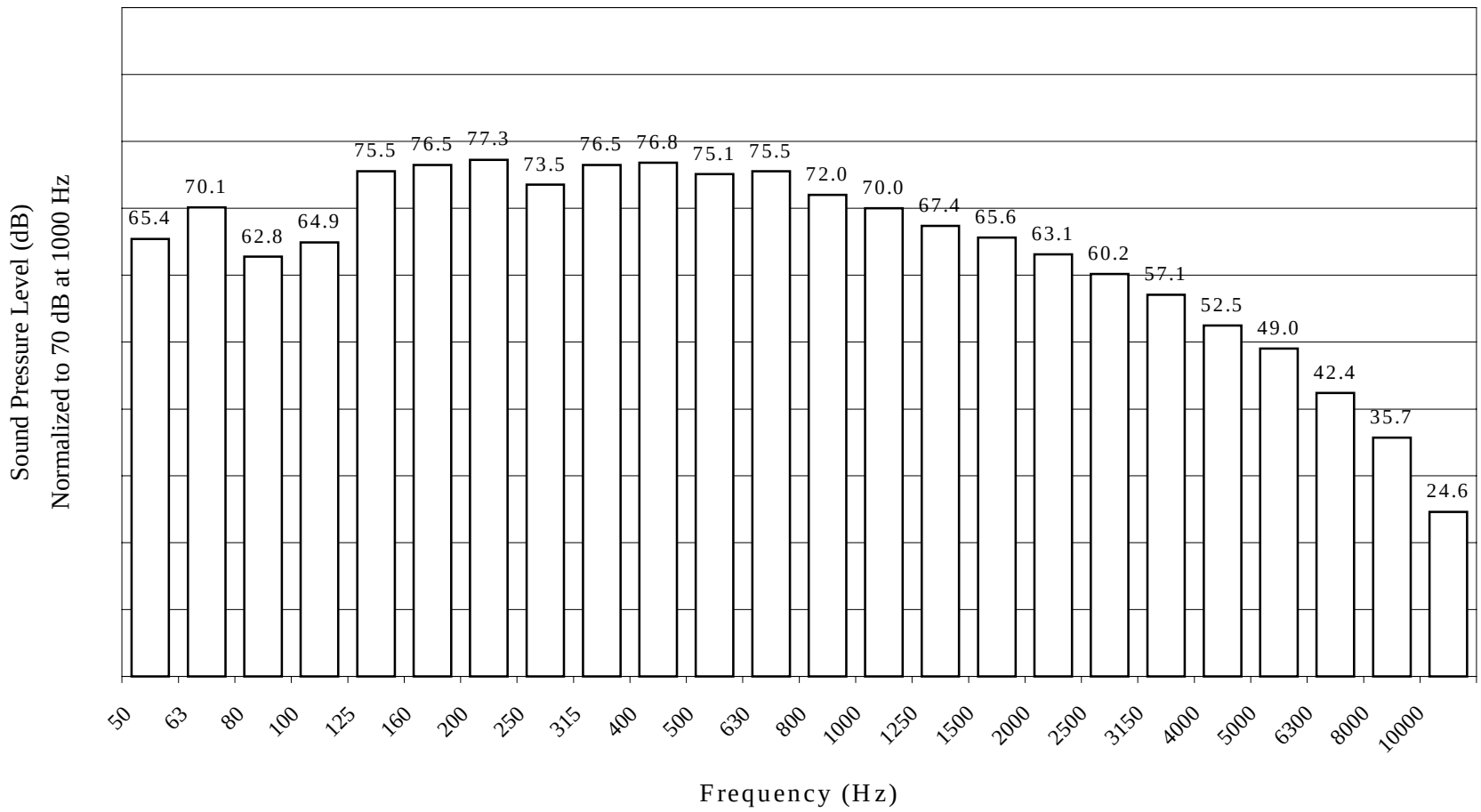

FIGURE 16. DEPARTURE SPECTRAL CLASS 116

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	SA355
	S65
	H500D

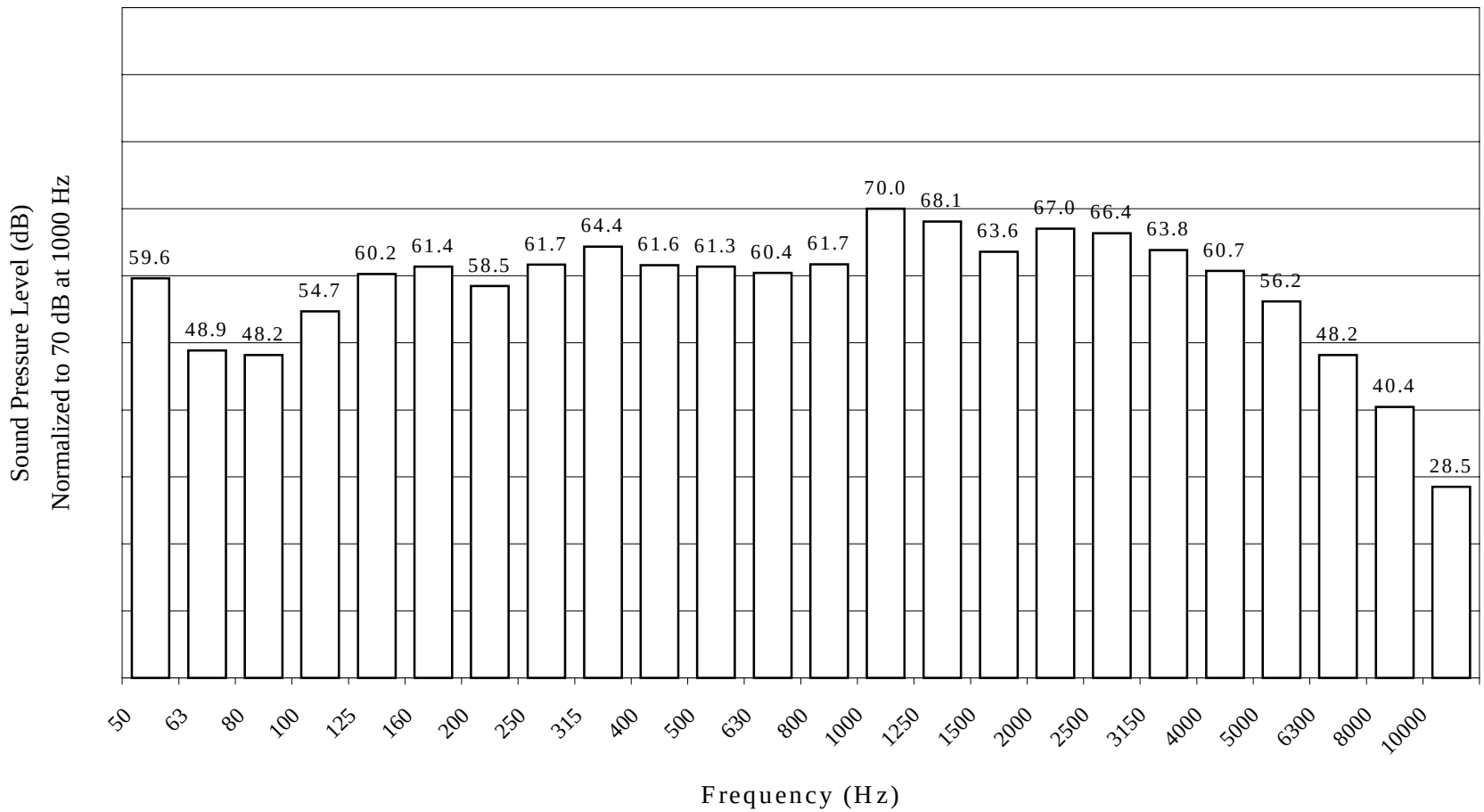

FIGURE 17. DEPARTURE SPECTRAL CLASS 117

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	SA365
	SA341

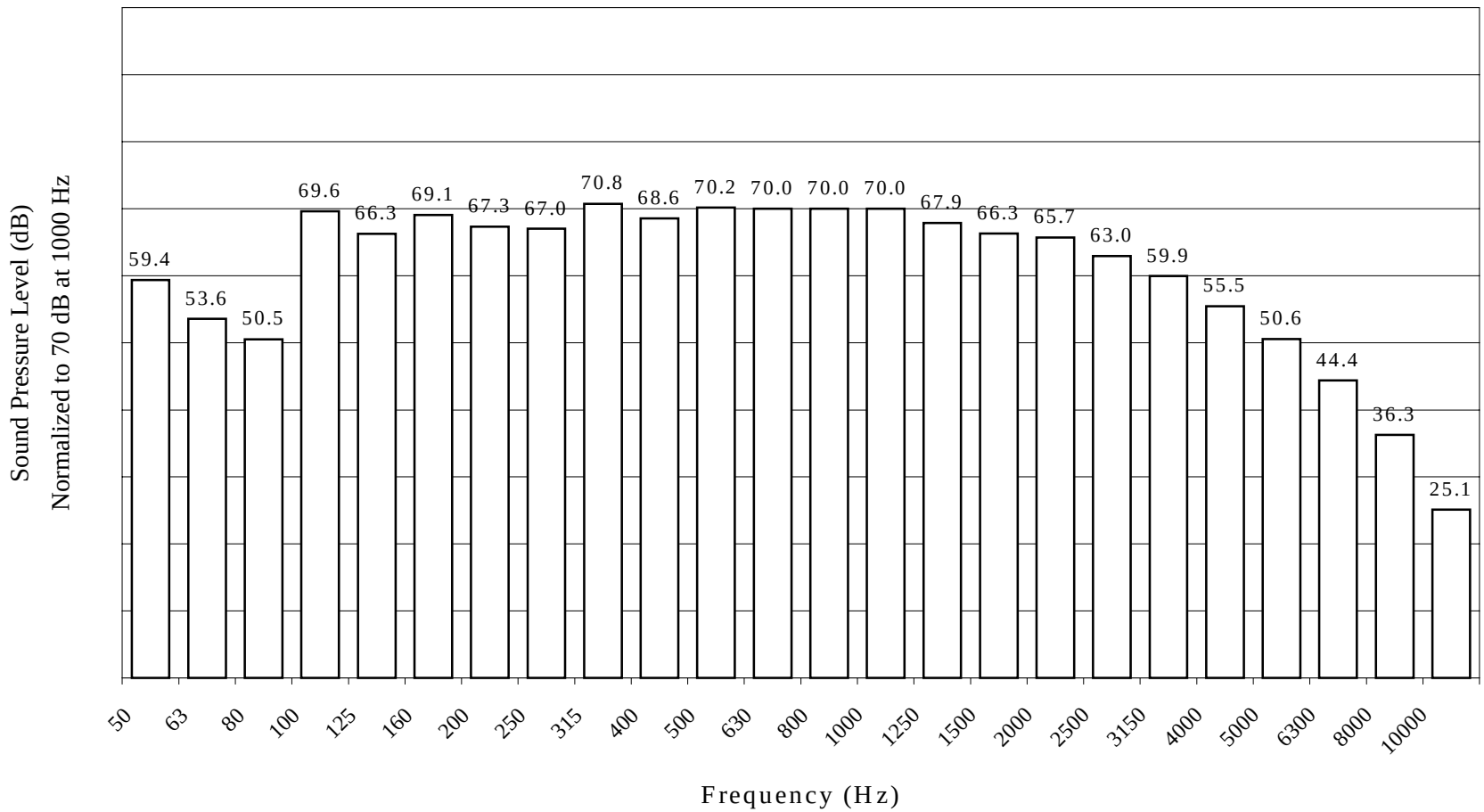

FIGURE 18. DEPARTURE SPECTRAL CLASS 118

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	SA330
	S61

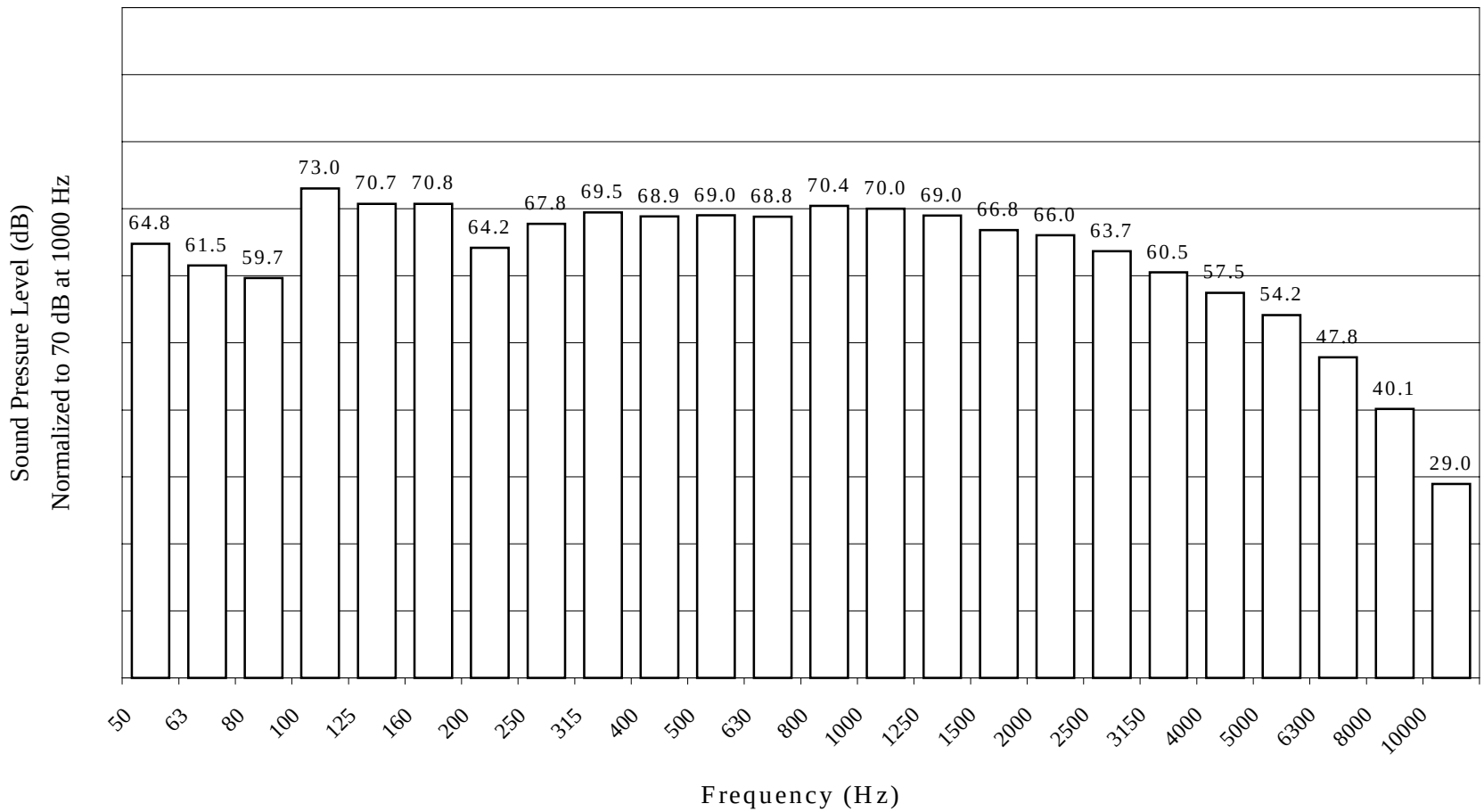

FIGURE 19. DEPARTURE SPECTRAL CLASS 119

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	CH47D
	S76

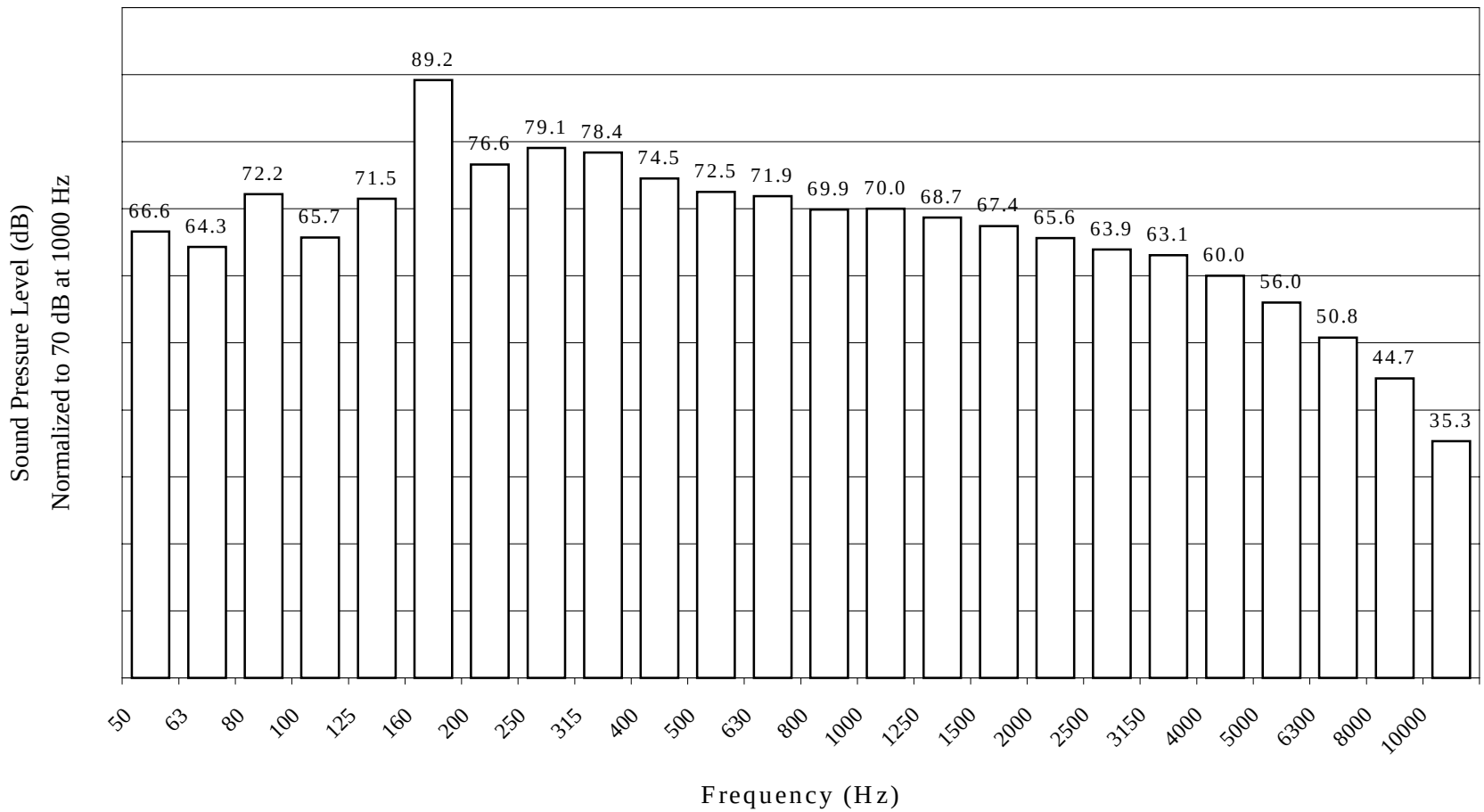

FIGURE 20. DEPARTURE SPECTRAL CLASS 120

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	B206L

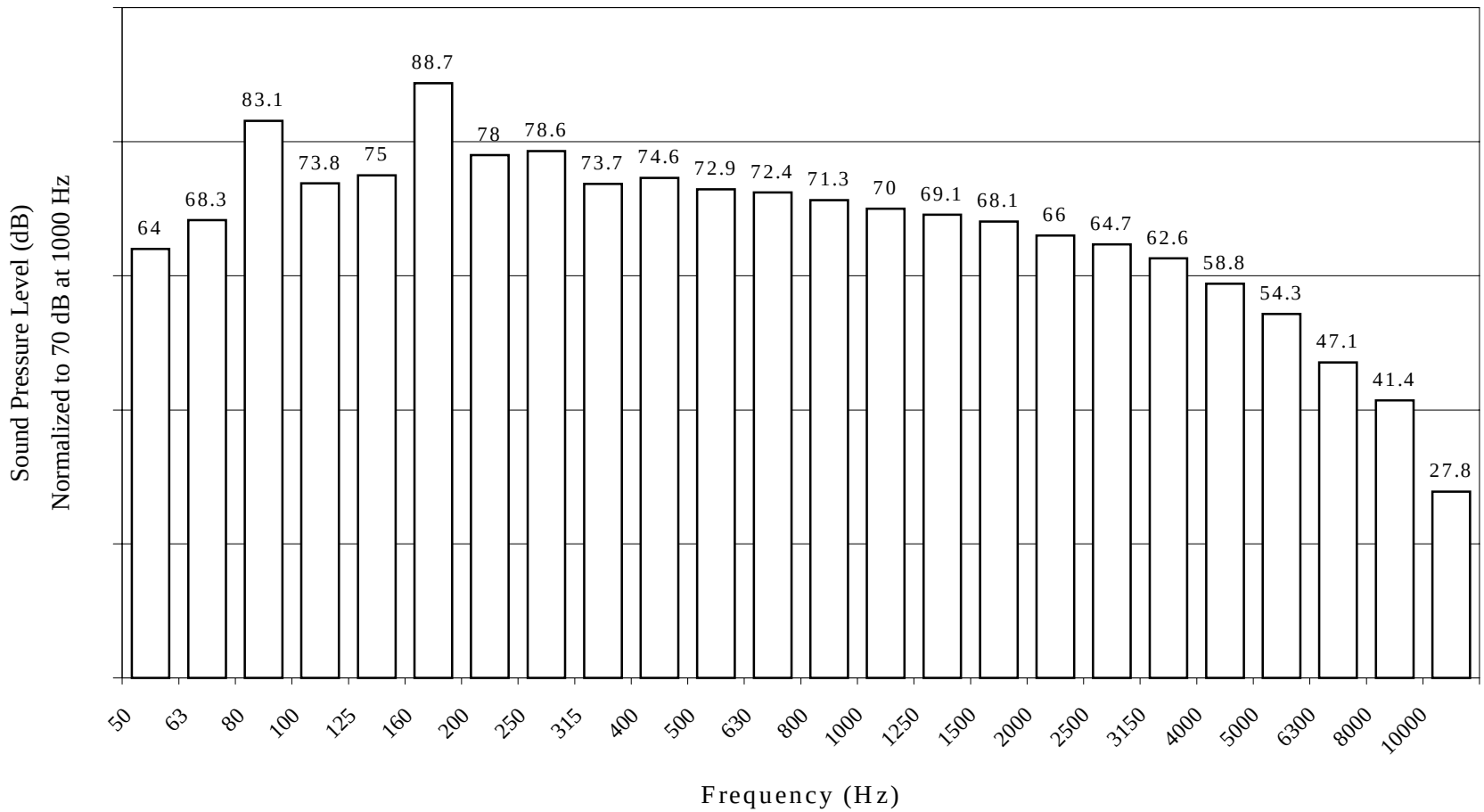

FIGURE 21. DEPARTURE SPECTRAL CLASS 121

<u>INM Aircraft Descriptions:</u>	Military Aircraft
<u>INM Aircraft ID:</u>	P3C
	P3A
	KC97L
	SR71

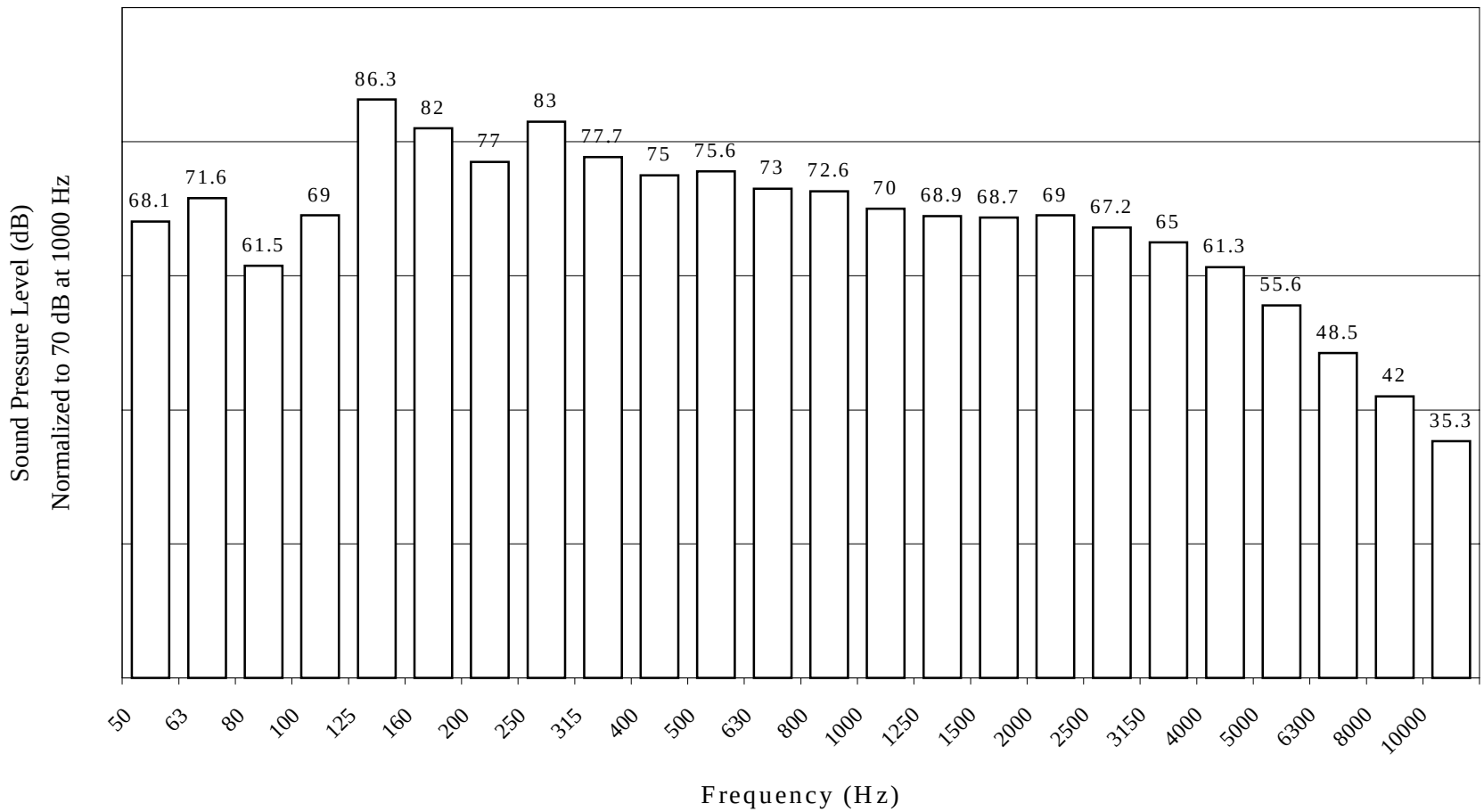

FIGURE 22. DEPARTURE SPECTRAL CLASS 122

INM Aircraft Descriptions:	Military Aircraft
INM Aircraft ID:	C118 / C123K / C131B
	T29
	YC14

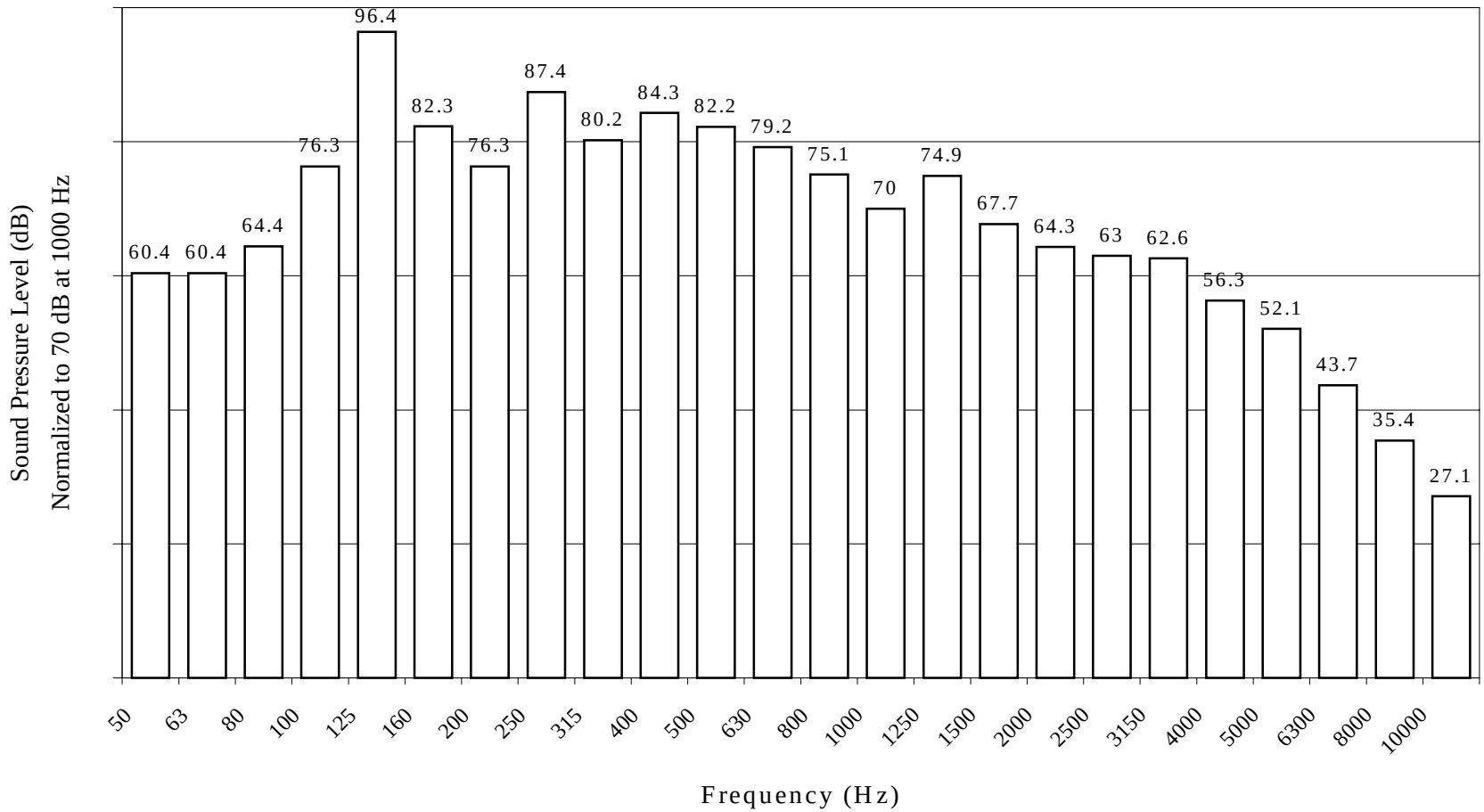

FIGURE 23. DEPARTURE SPECTRAL CLASS 123

INM Aircraft Descriptions:	Military Aircraft
INM Aircraft ID:	OV10A
	T3 / T34 / T41 / T42 / U6 / U8F

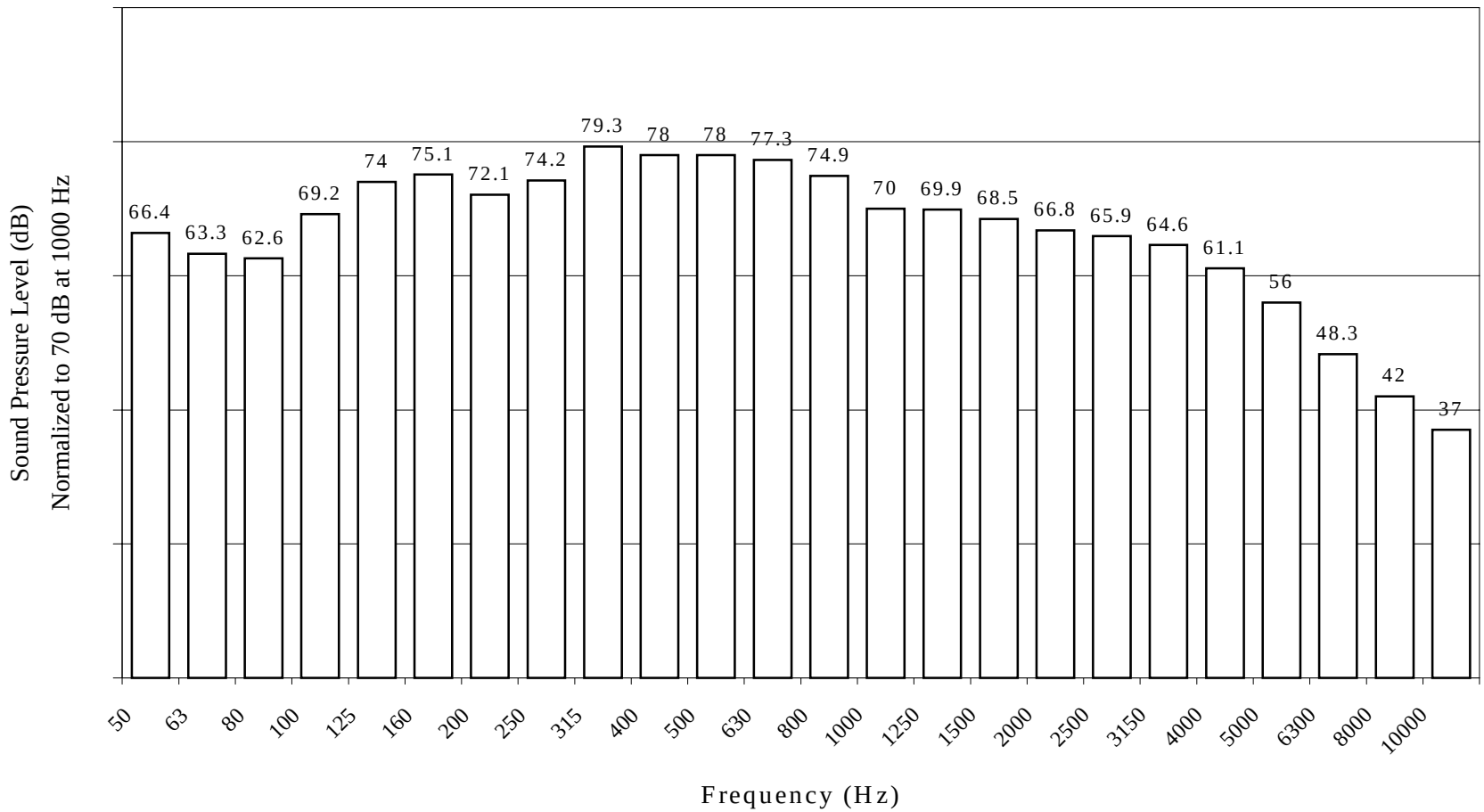

FIGURE 24. DEPARTURE SPECTRAL CLASS 124

<u>INM Aircraft Descriptions:</u>	Military Aircraft
<u>INM Aircraft ID:</u>	KC-135 / KC135B / KC135 / KC135R
	PROVOS
	T1
	T45

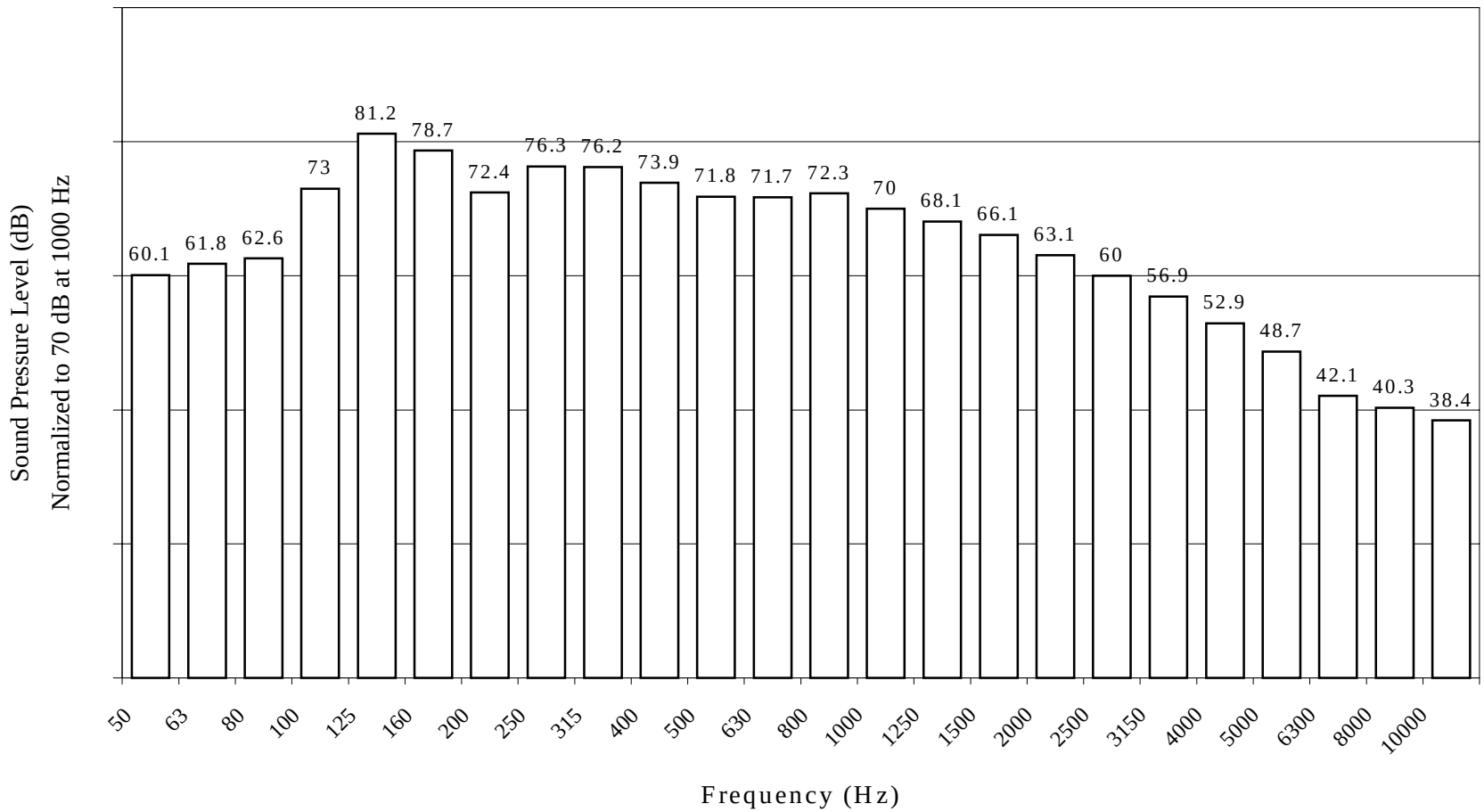

FIGURE 25. DEPARTURE SPECTRAL CLASS 125

INM Aircraft Descriptions:	Military Aircraft	
INM Aircraft ID:	C119L	LIGHTN
	C121	PHANTO
	C7A	VULCAN
	C-20	

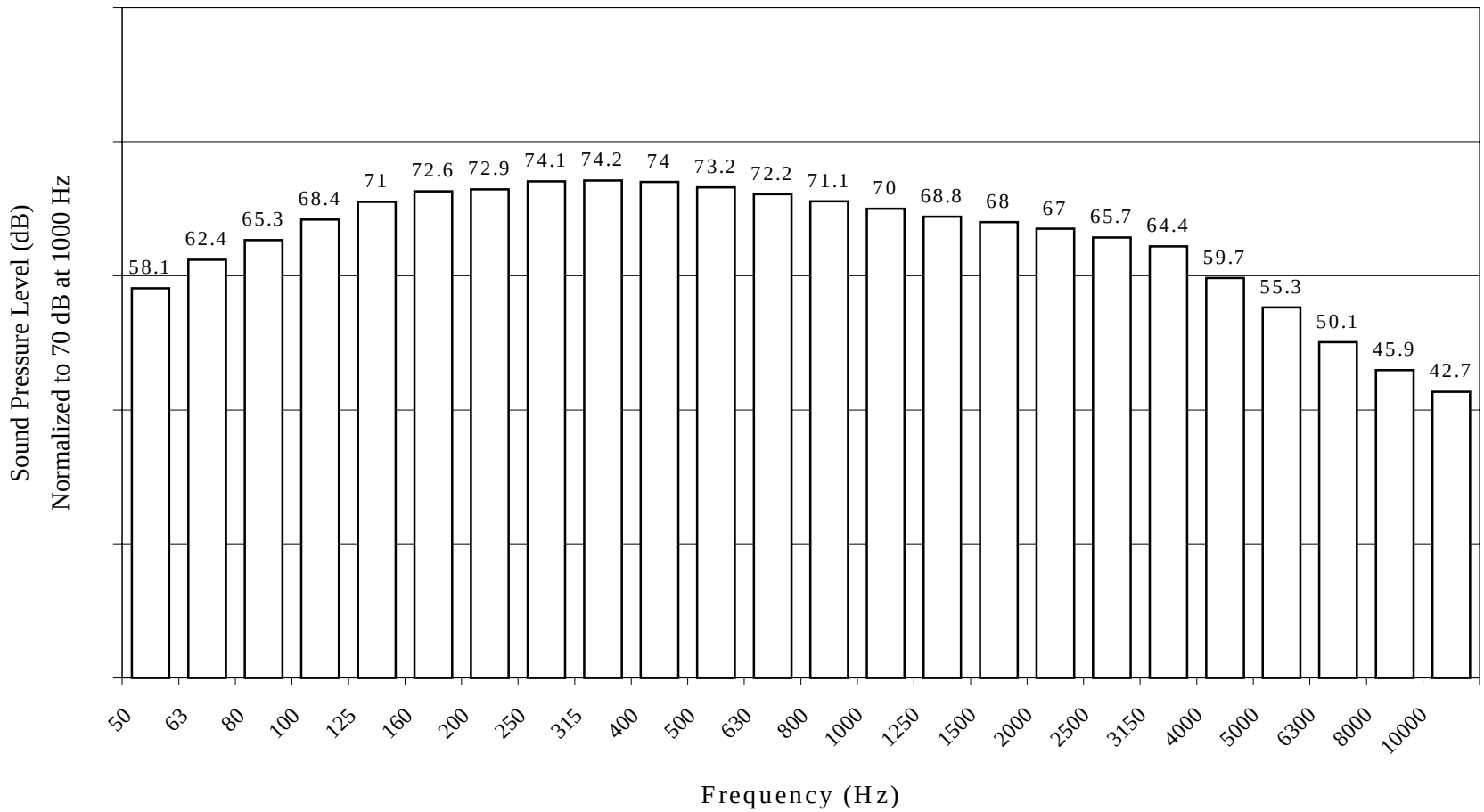

FIGURE 26. DEPARTURE SPECTRAL CLASS 126

INM Aircraft Descriptions:	Military Aircraft		
INM Aircraft ID:	A7E / A7D	C22 / C9A	F16PW9F16AU4B
	B1	C21A	F16GE FB111AVC10
	B57E	E3A	F16PW0KC10AVICTOR
	C135A	E4	F-18 T37B
	C17	F15A / F15E20 / F15E29	F18EF T-43A

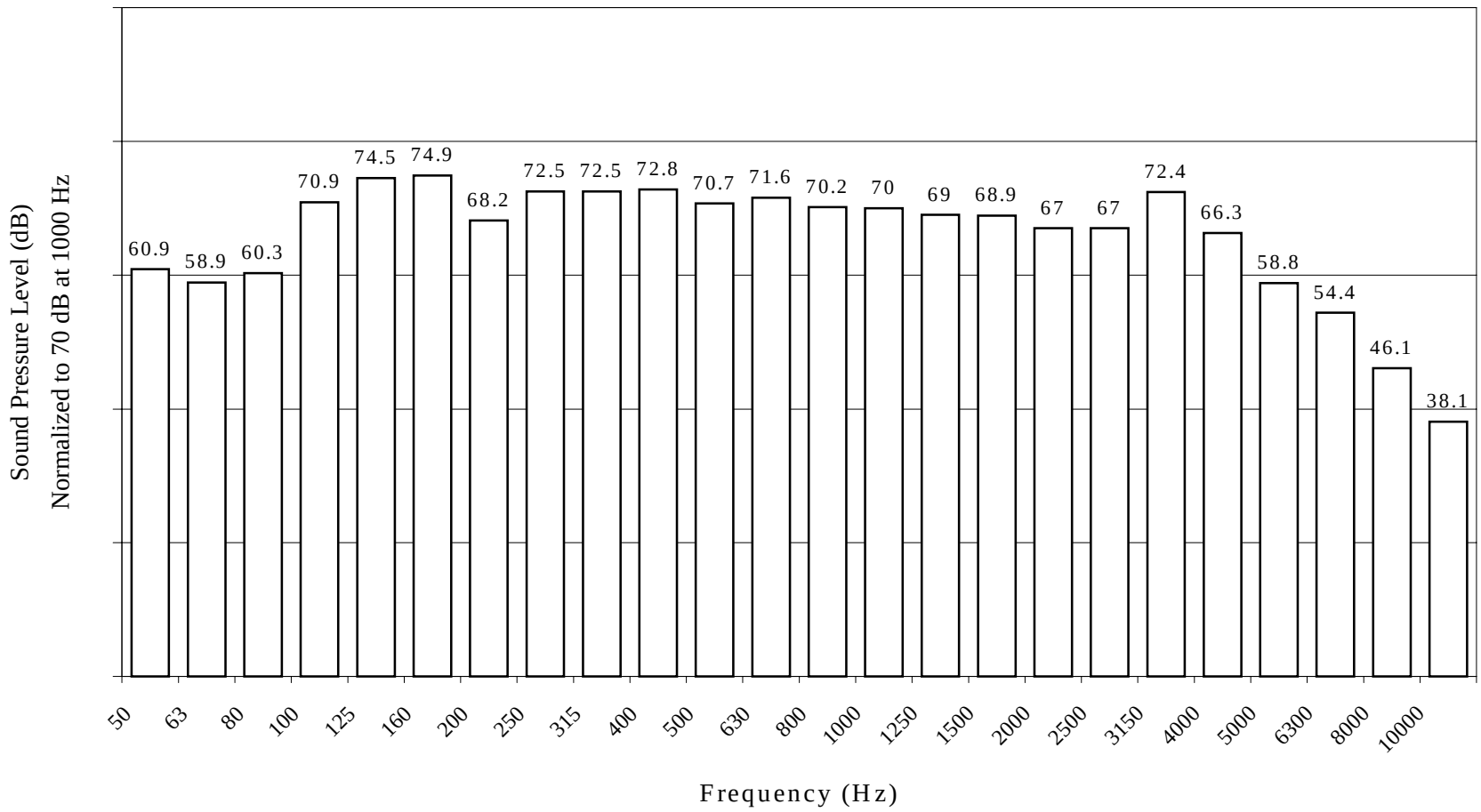

FIGURE 27. DEPARTURE SPECTRAL CLASS 127

INM Aircraft Descriptions:	Military Aircraft		
INM Aircraft ID:	A4C	C140 / T39A	F100D/ /F102 / F8HAWKT33A
	A5C	C141A	F117AHS748YC15
	B2A	F106	F14AHUNTER
	B52BDE / B52G	F111AE / F111D / F-111F	F4C / F-4CJAGUAR
	CANBER	F104G	HARRIE

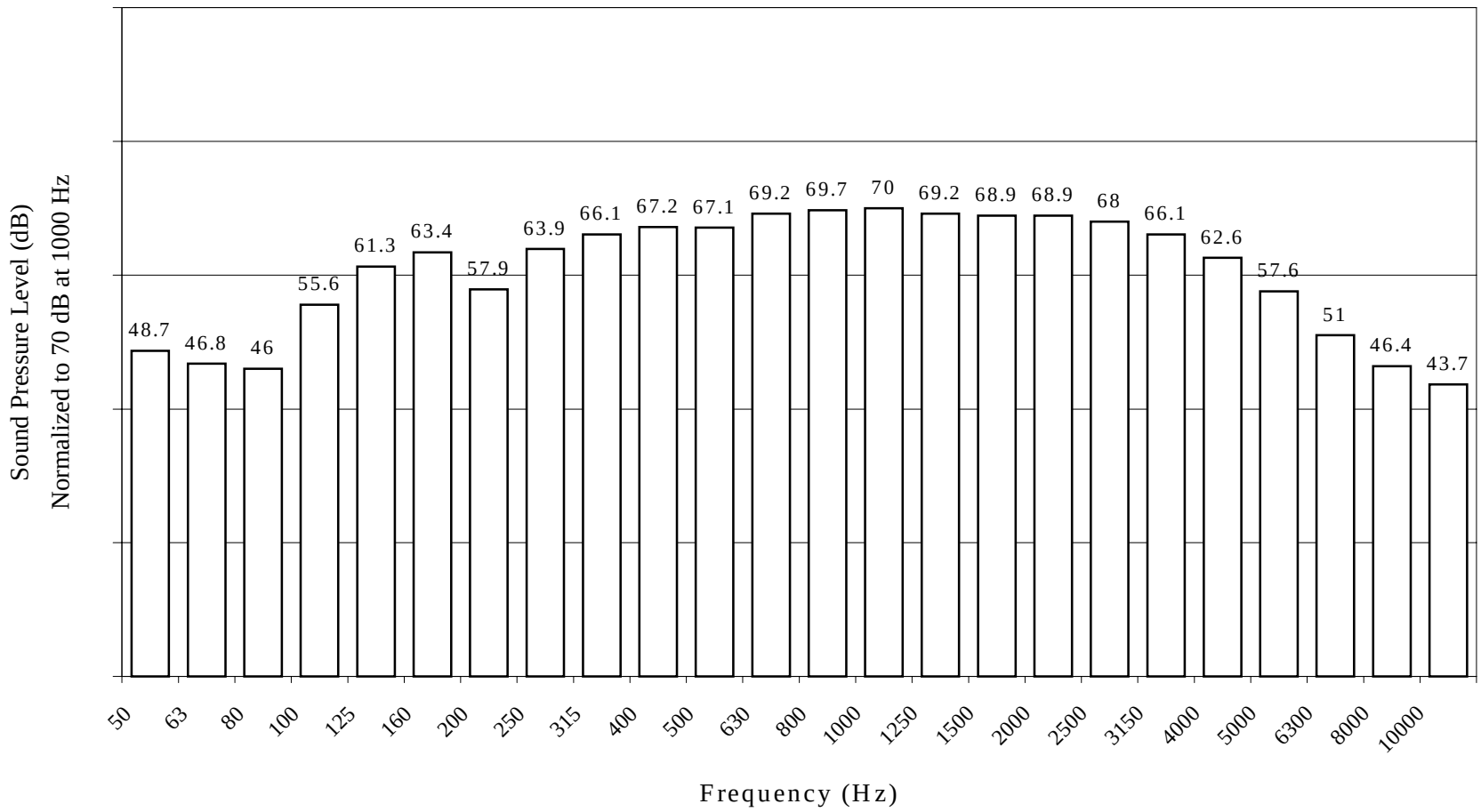

FIGURE 28. DEPARTURE SPECTRAL CLASS 128

INM Aircraft Descriptions:	Military Aircraft		
INM Aircraft ID:	A10A	AV8B	F14B
	A3	BUCCAN	NIMROD
	A37	DOMIN	T-38A
	A6A / EA6B	F101B	T-2C
	AV8A	F105D / TR1 / U2	TORNAD

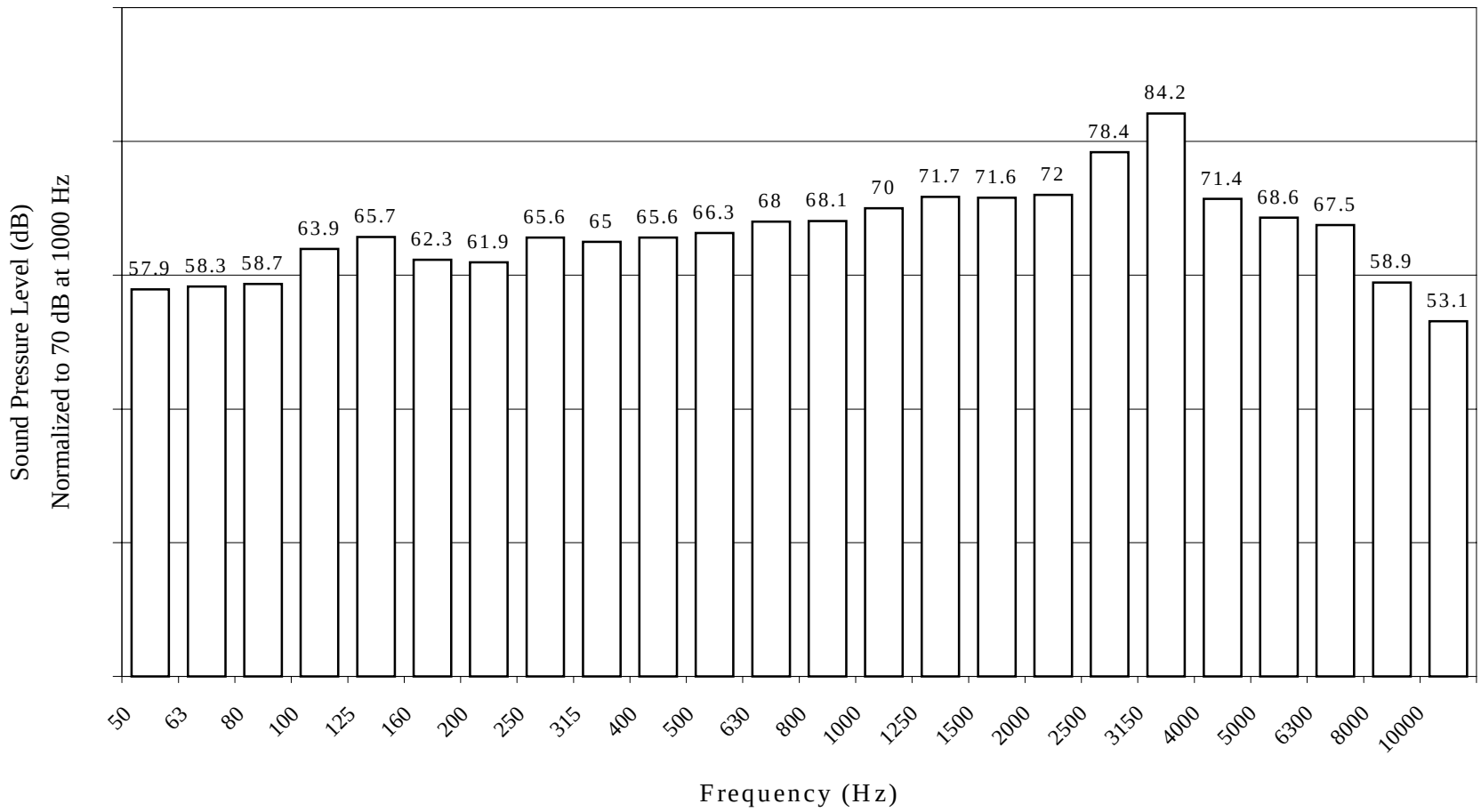

FIGURE 29. DEPARTURE SPECTRAL CLASS 129

INM Aircraft Descriptions:	Military Aircraft
INM Aircraft ID:	S3A&B

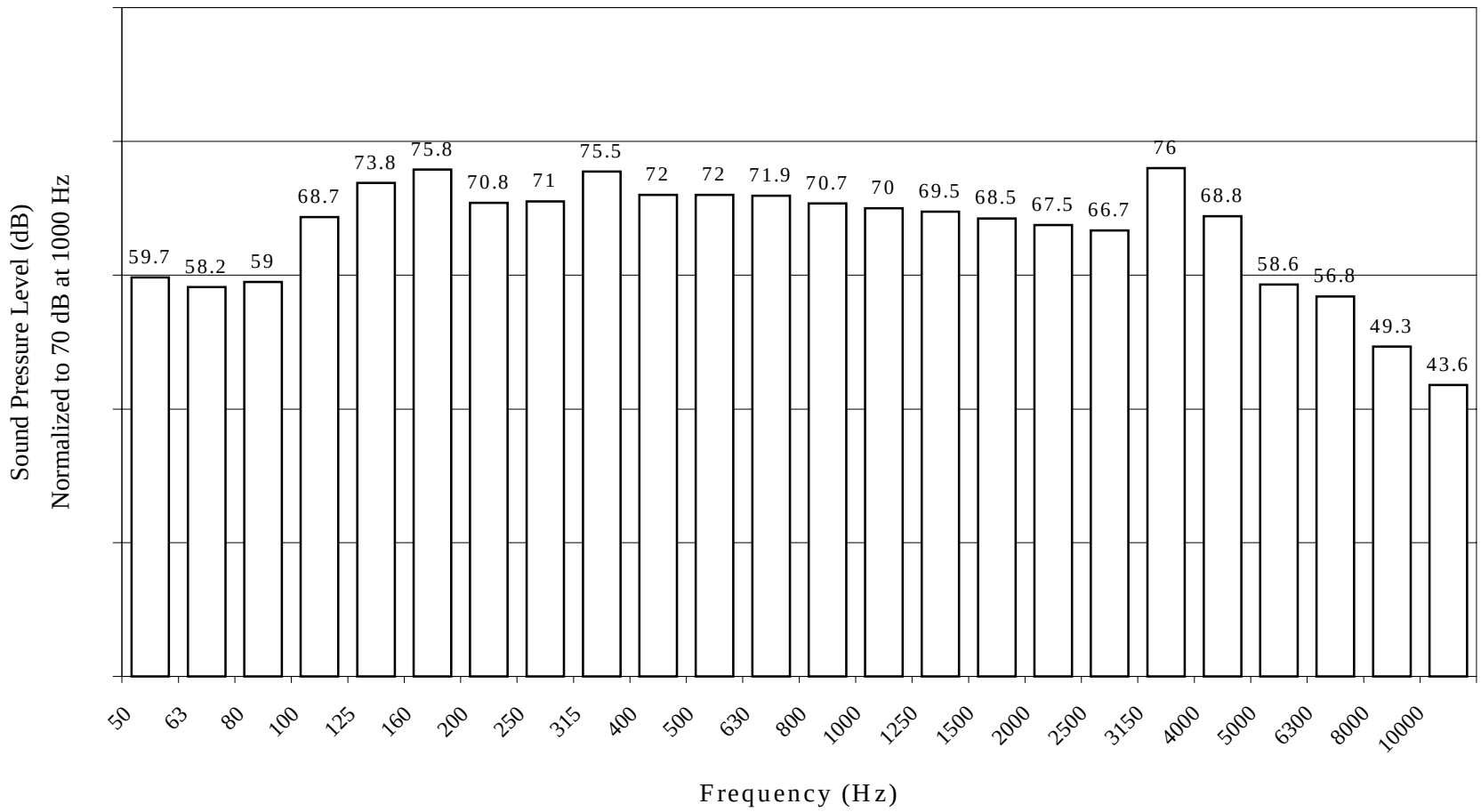

FIGURE 30. DEPARTURE SPECTRAL CLASS 130

<u>INM Aircraft Descriptions:</u>	Military Aircraft
<u>INM Aircraft ID:</u>	B52H
	C135B / C137
	C18A / E8A

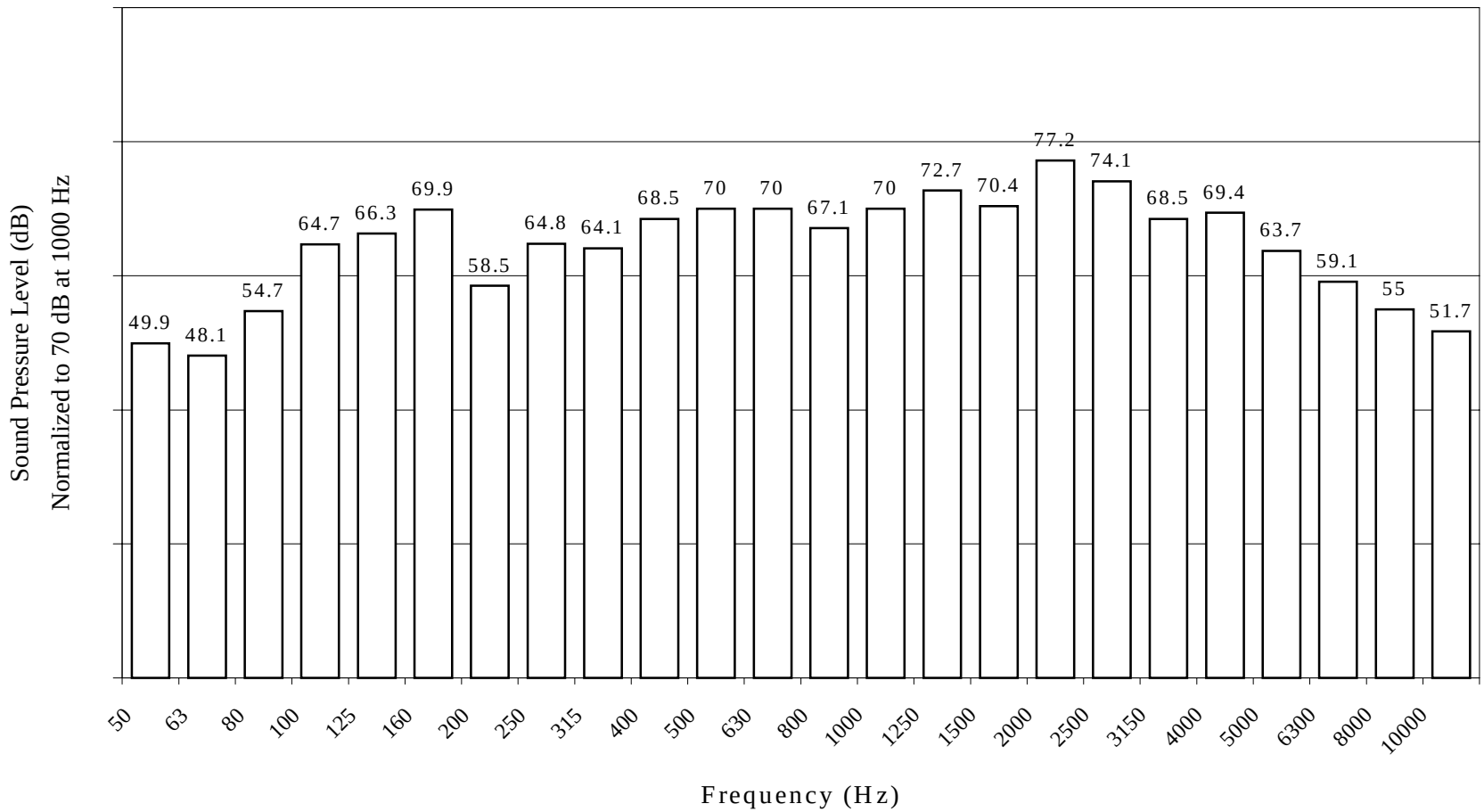

FIGURE 31. DEPARTURE SPECTRAL CLASS 131

INM Aircraft Descriptions:	Military Aircraft
INM Aircraft ID:	C5A
	F5E / F5AB

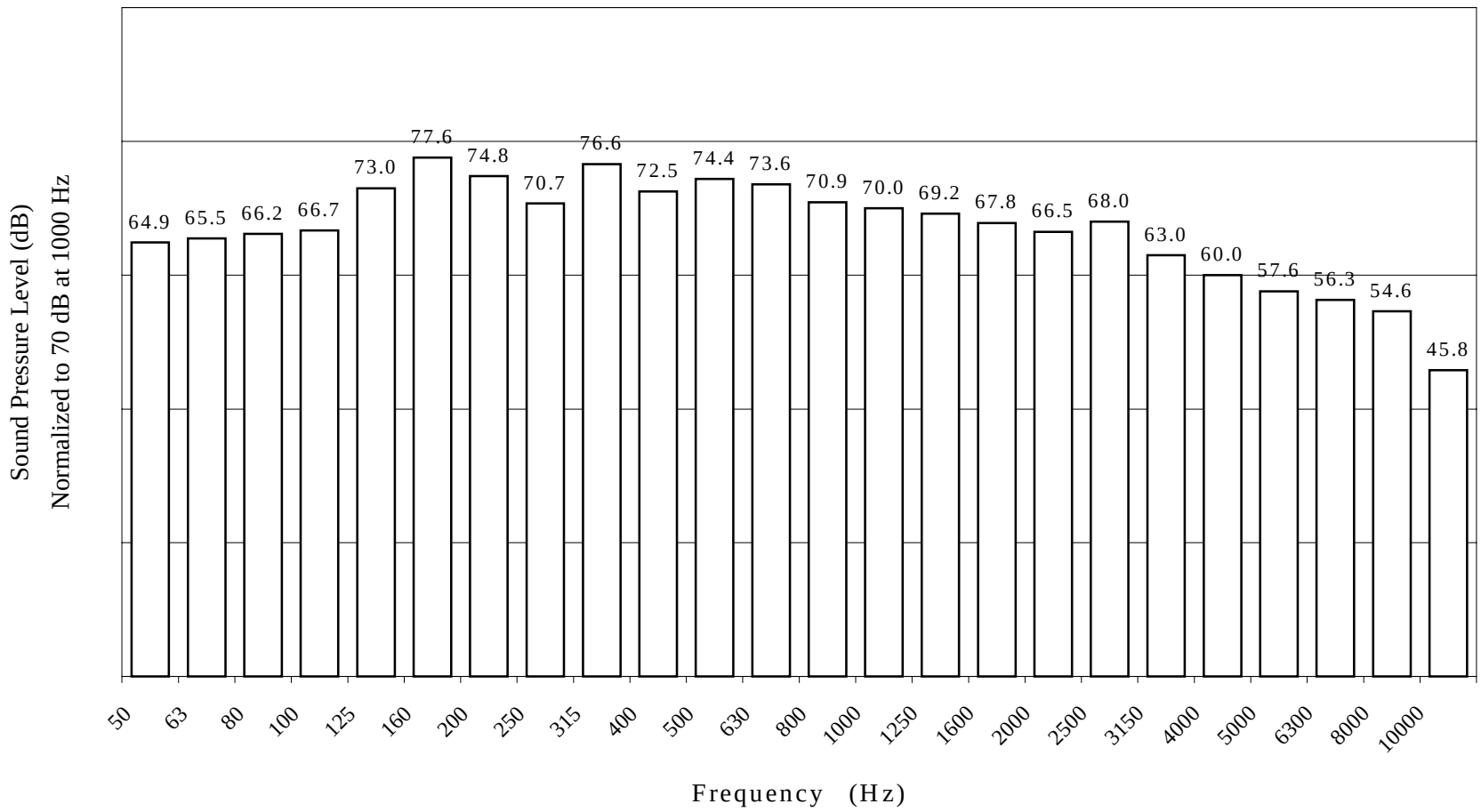

FIGURE 32. APPROACH SPECTRAL CLASS 201

INM Aircraft Descriptions:	Two and Three engine low bypass ratio turbofan aircraft
INM Aircraft ID:	727100 / 727200 / 727D15 / 727D17 / 727EM1 / 727EM2 / 727Q15 / 727Q7 / 727Q9 / 727QF / 737 / 737D17 / 737QN / DC9Q9 / DC910 / DC930 / DC950 / DC9Q7 / F10062 / F10065 / GIV DC93LW / DC93HW

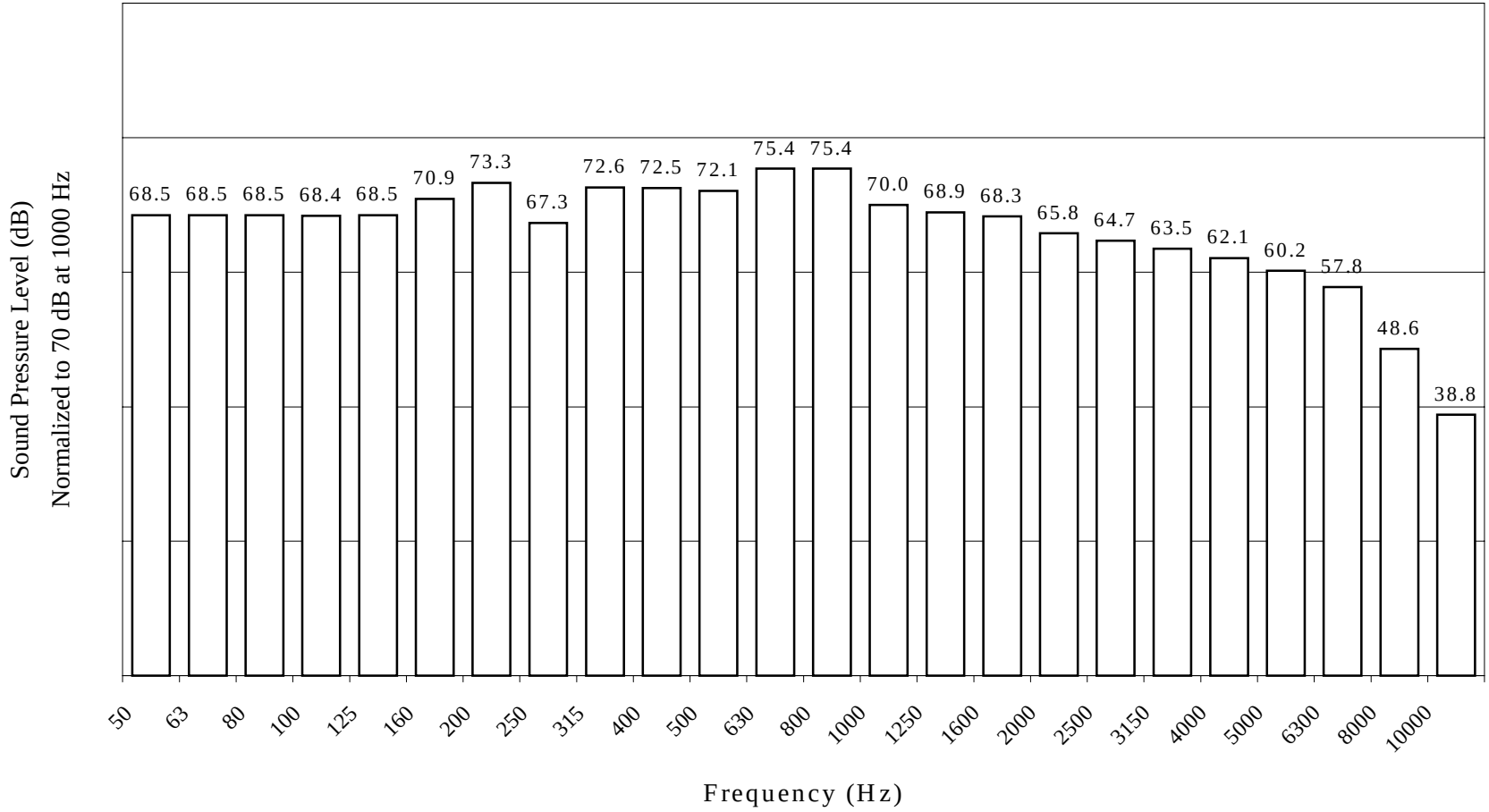

FIGURE 33. APPROACH SPECTRAL CLASS 202

INM Aircraft Descriptions:	Two engine high bypass ratio turbofan aircraft; two engine turbojet business aircraft
INM Aircraft ID:	737300 / 7373B2 / 737400 / 737500
	LEAR25

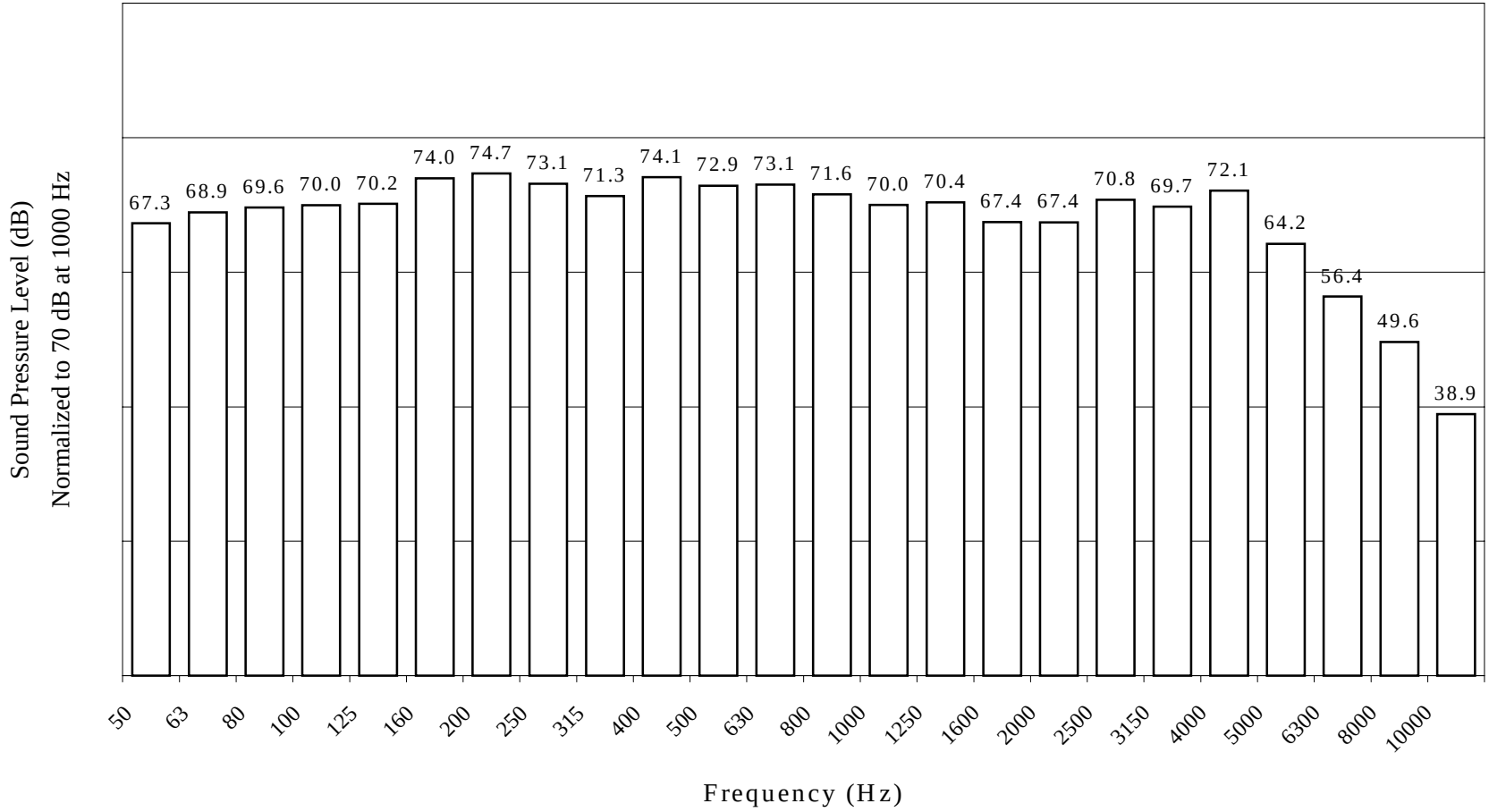

FIGURE 34. APPROACH SPECTRAL CLASS 203

INM Aircraft Descriptions:	Two engine high bypass ratio turbofan aircraft; two engine turbofan business aircraft
INM Aircraft ID:	757PW / 757RR / 767300 / 767CF6 / 767JT9 / A300 / A310 / A320
	DC1010 / DC1030 / DC1040 / L1011 / L10115
	FAL20 / SABR80
	MU3001

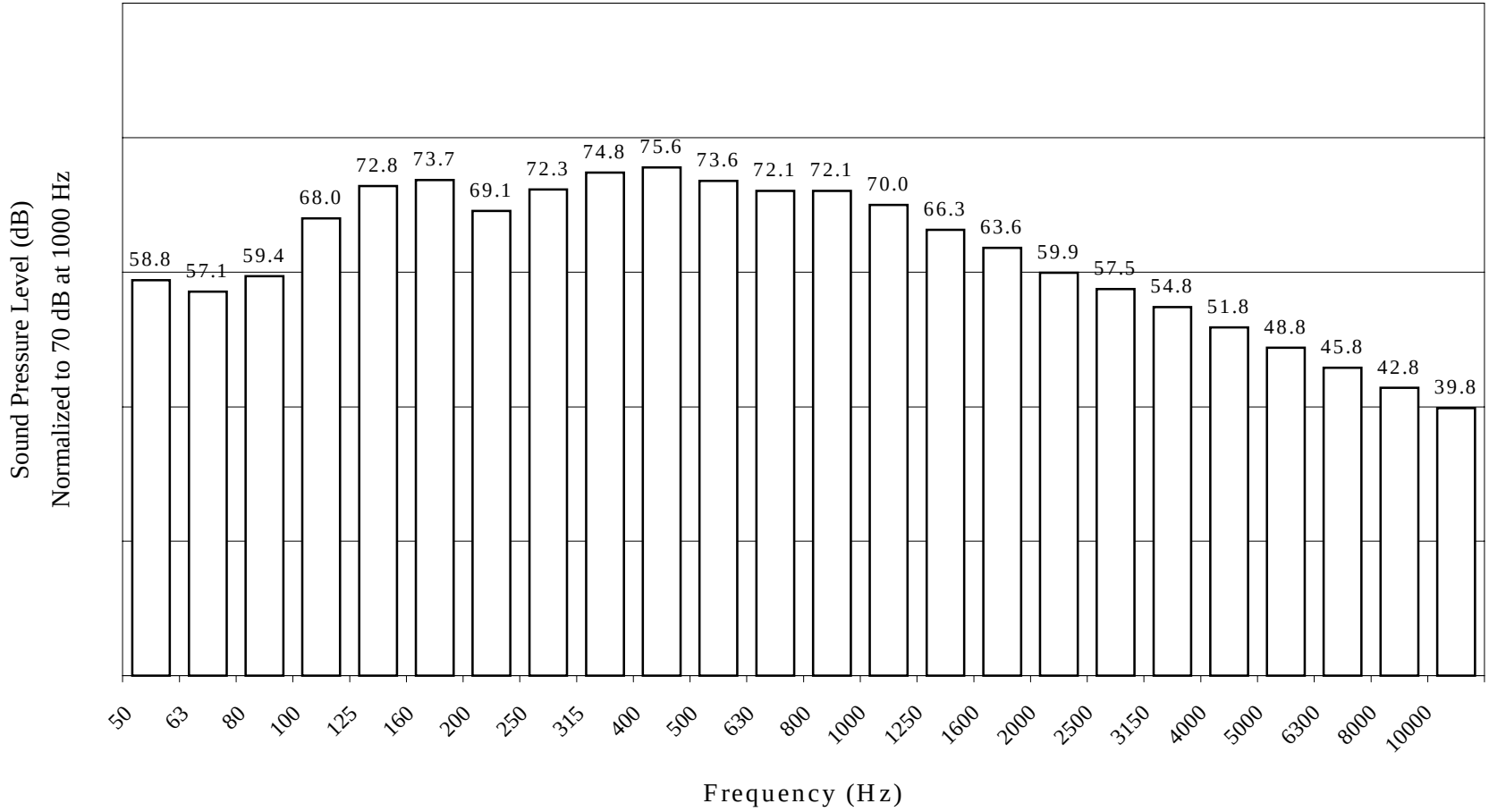

FIGURE 35. APPROACH SPECTRAL CLASS 204

INM Aircraft Descriptions:	Two engine high bypass ratio turbofan aircraft
INM Aircraft ID:	MD81 / MD82 / MD83
	737N17 / 737N19

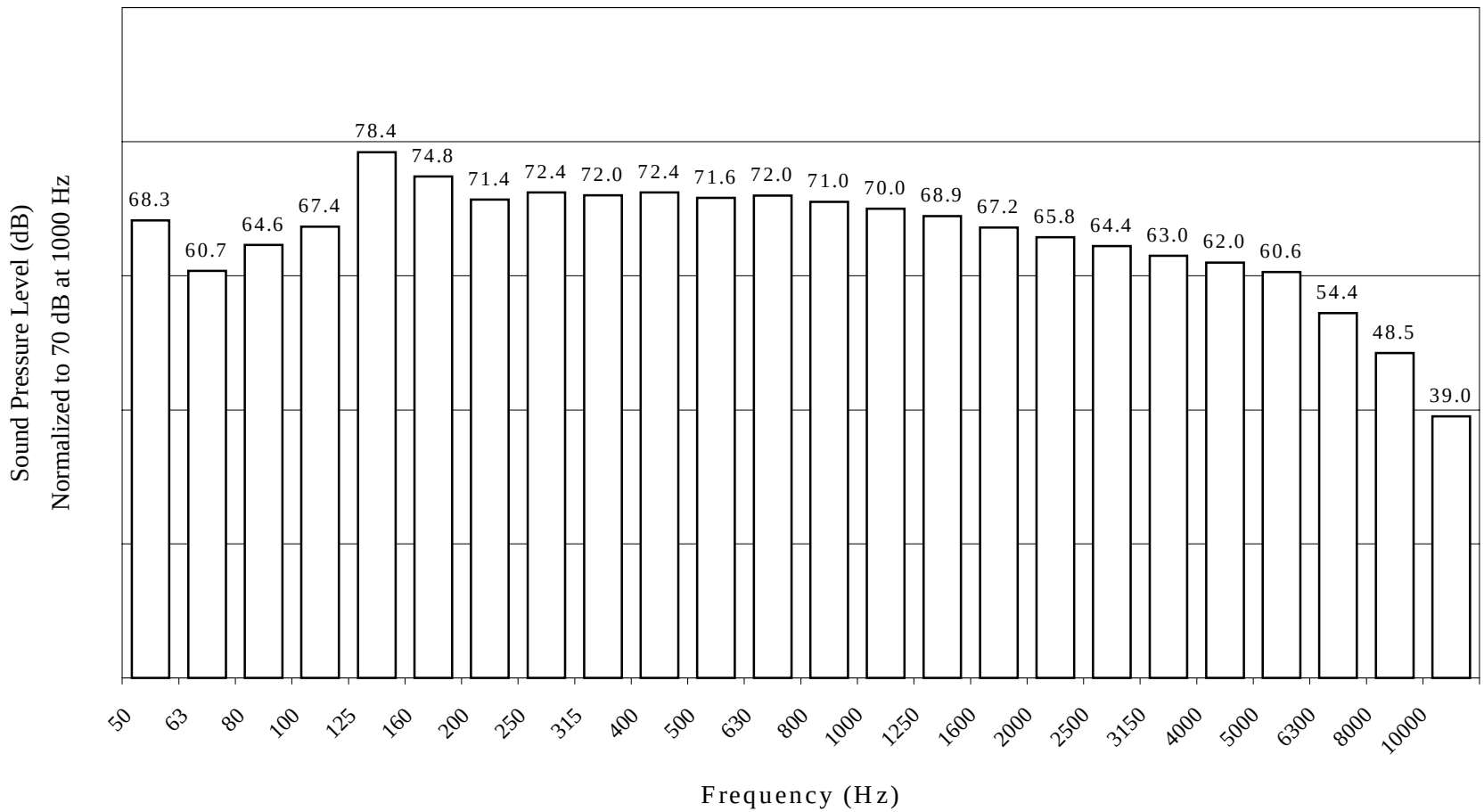

FIGURE 36. APPROACH SPECTRAL CLASS 205

INM Aircraft Descriptions:	Two engine high bypass ratio turbofan aircraft
INM Aircraft ID:	MD9025 / MD9028
	777200

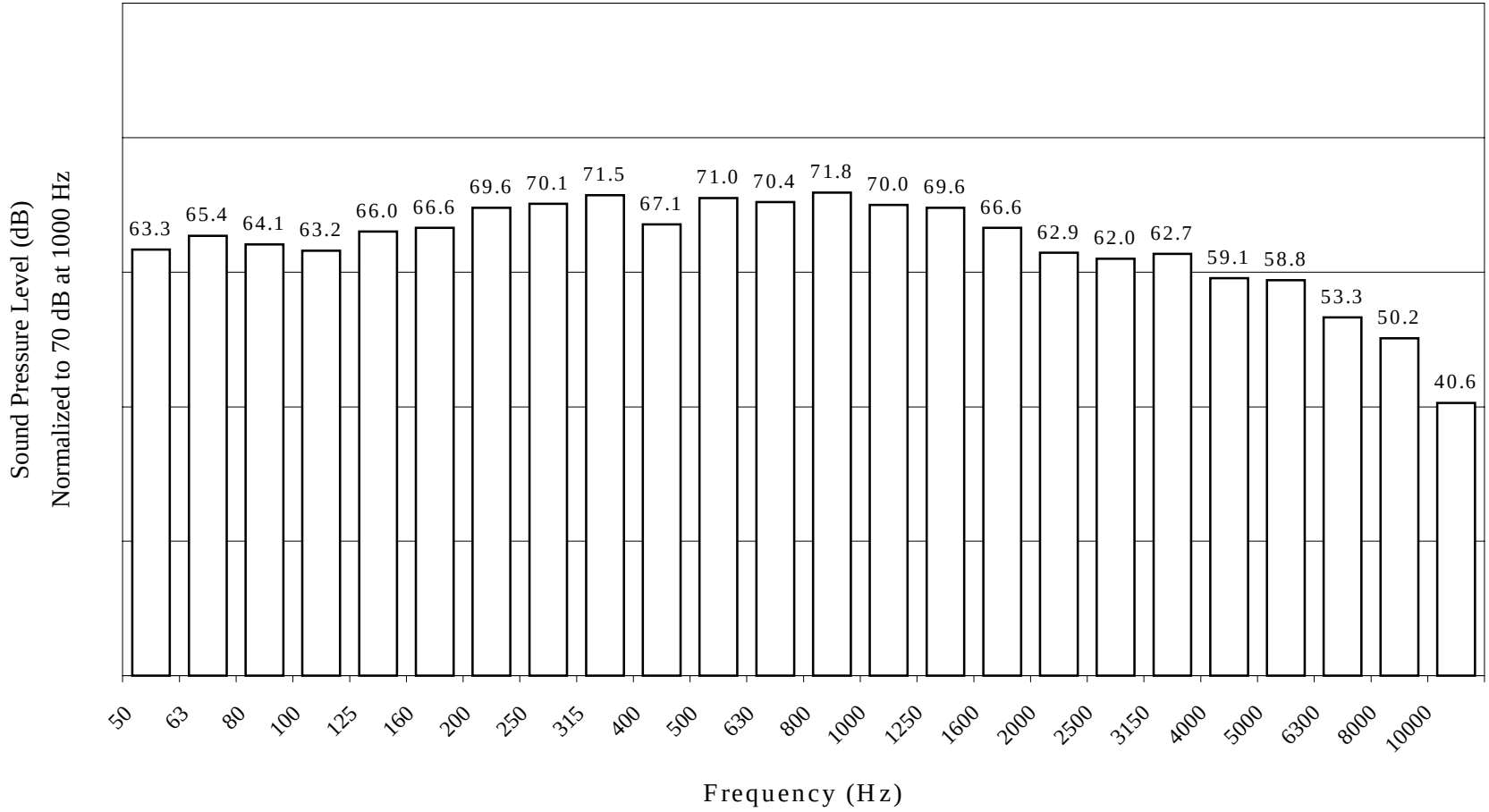

FIGURE 37. APPROACH SPECTRAL CLASS 206

INM Aircraft Descriptions:	Four engine turbojet and turbofan aircraft
INM Aircraft ID:	DC870
	BAE146 / BAC111 / BAE300
	A340-211
	CONCRD

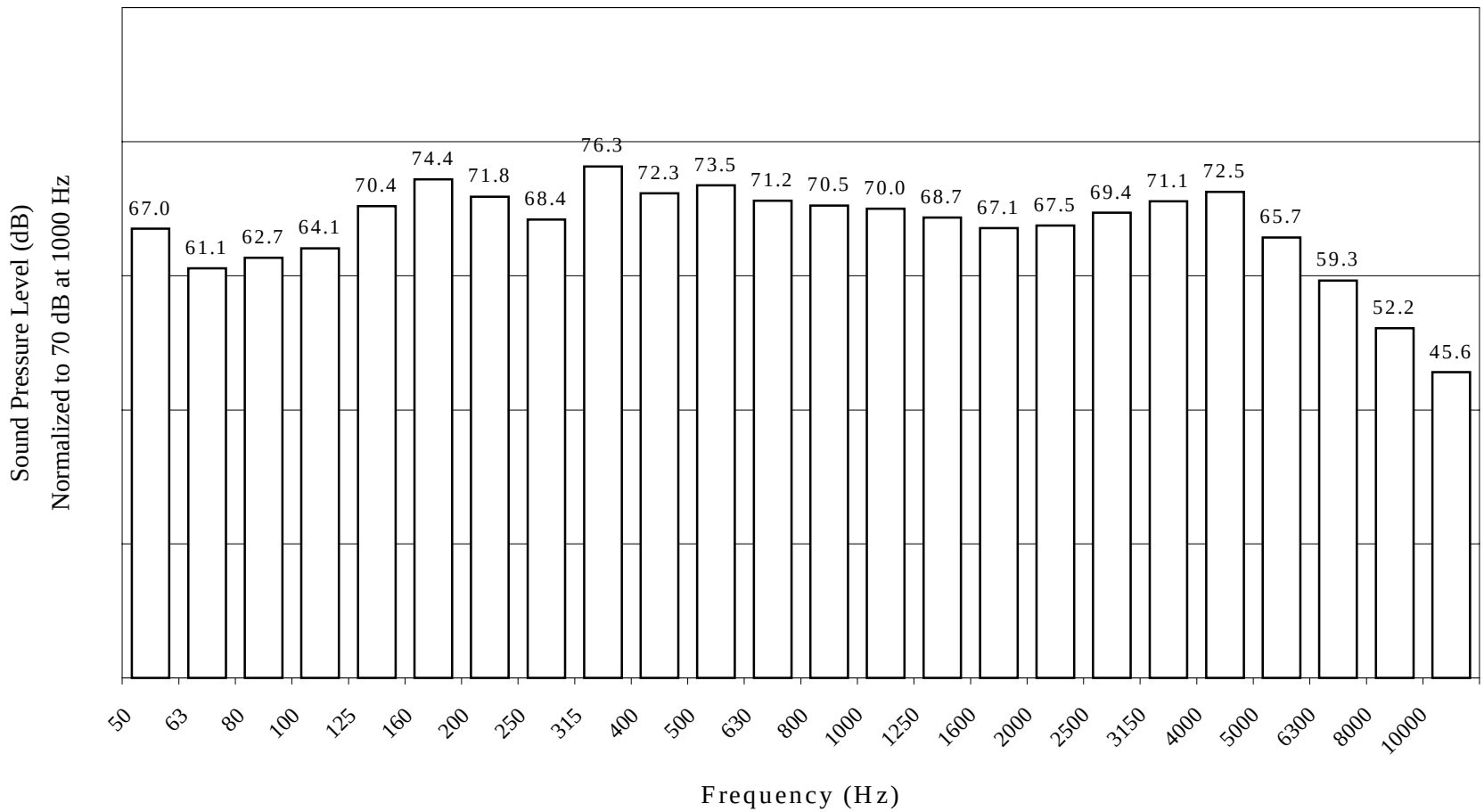

FIGURE 38. APPROACH SPECTRAL CLASS 207

INM Aircraft Descriptions:	Four engine turbofan aircraft
INM Aircraft ID:	74710Q / 747200 / 74720A / 74720B / 747400 / 747SP

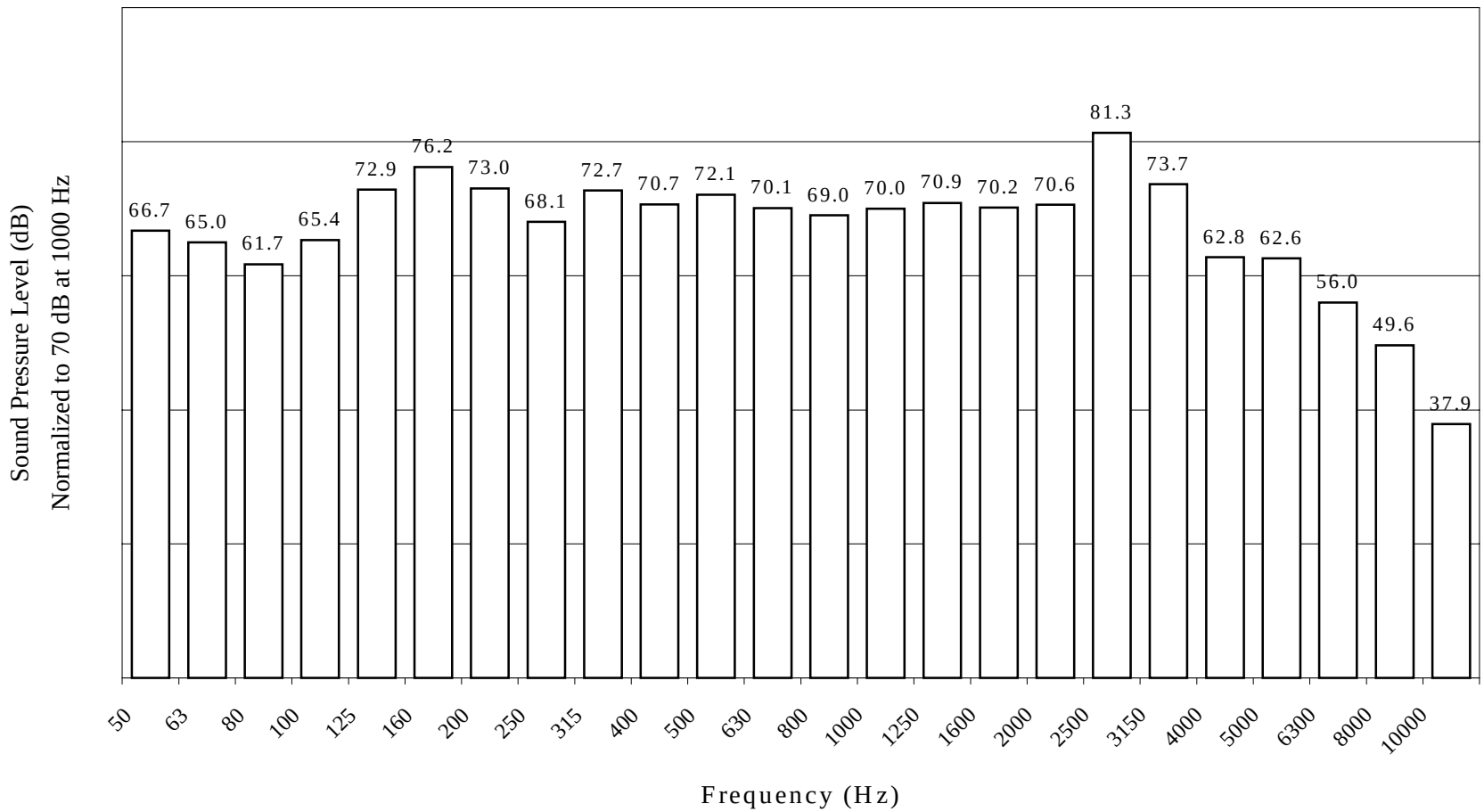

FIGURE 39. APPROACH SPECTRAL CLASS 208

INM Aircraft Descriptions:	Four engine turbofan and turbojet aircraft
INM Aircraft ID:	707QN / DC8QN
	707120 / 707320 / 720B / DC850 / DC860
	707 / 720 / DC820

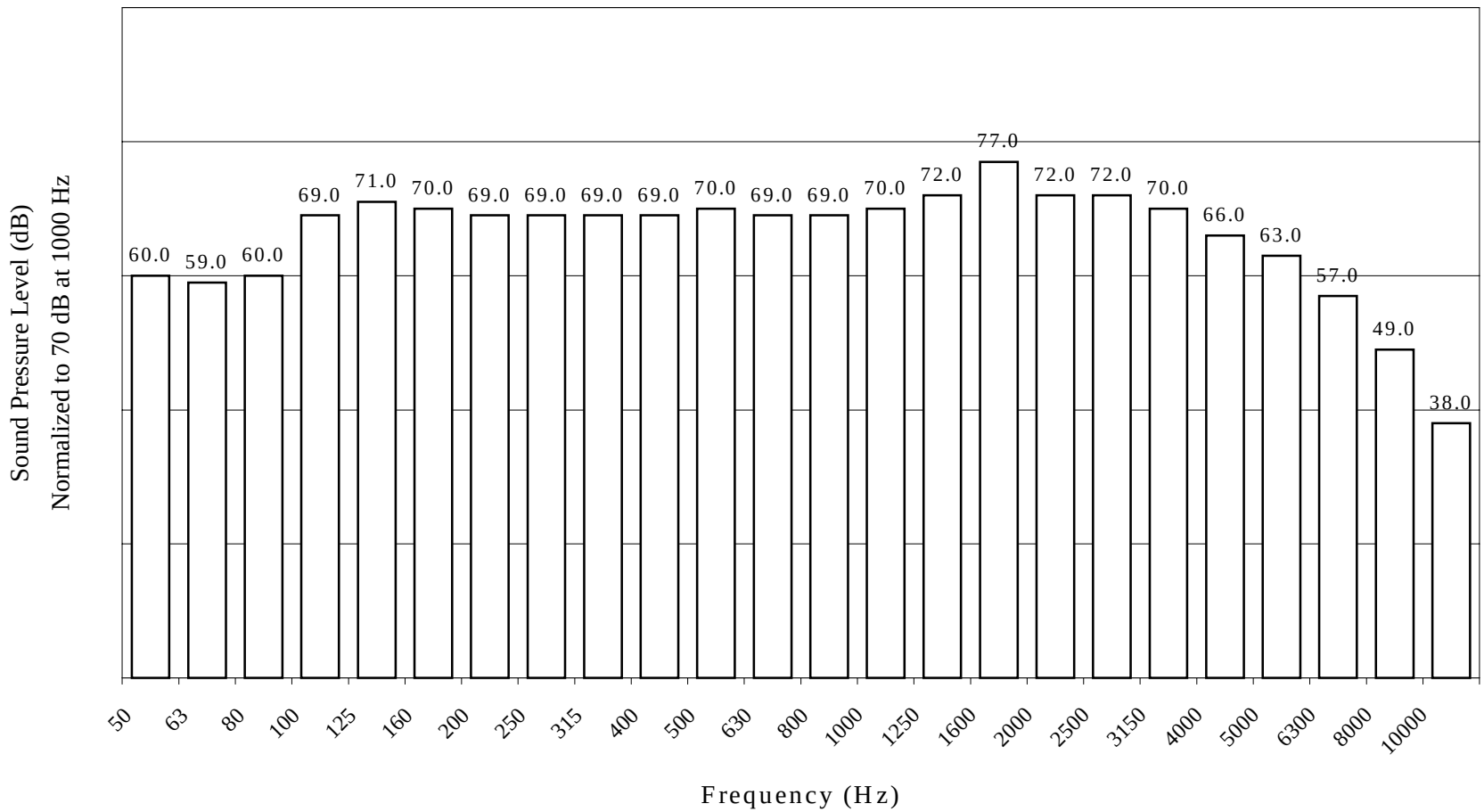

FIGURE 40. APPROACH SPECTRAL CLASS 209

INM Aircraft Descriptions:	Four engine turbofan aircraft
INM Aircraft ID:	747100

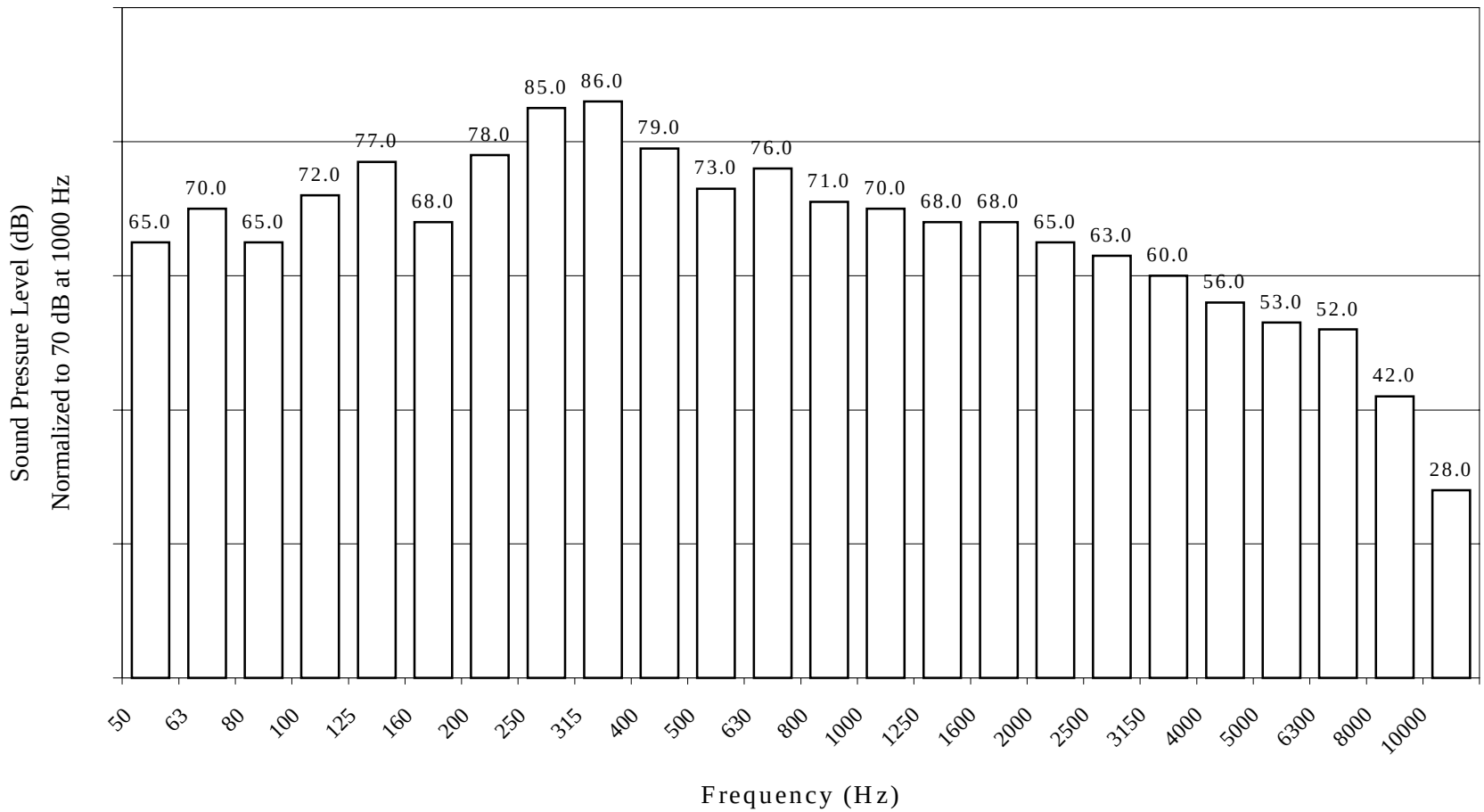

FIGURE 41. APPROACH SPECTRAL CLASS 210

INM Aircraft Descriptions:	Two engine turboprop aircraft
INM Aircraft ID:	DHC6 / DHC6QP / CNA441

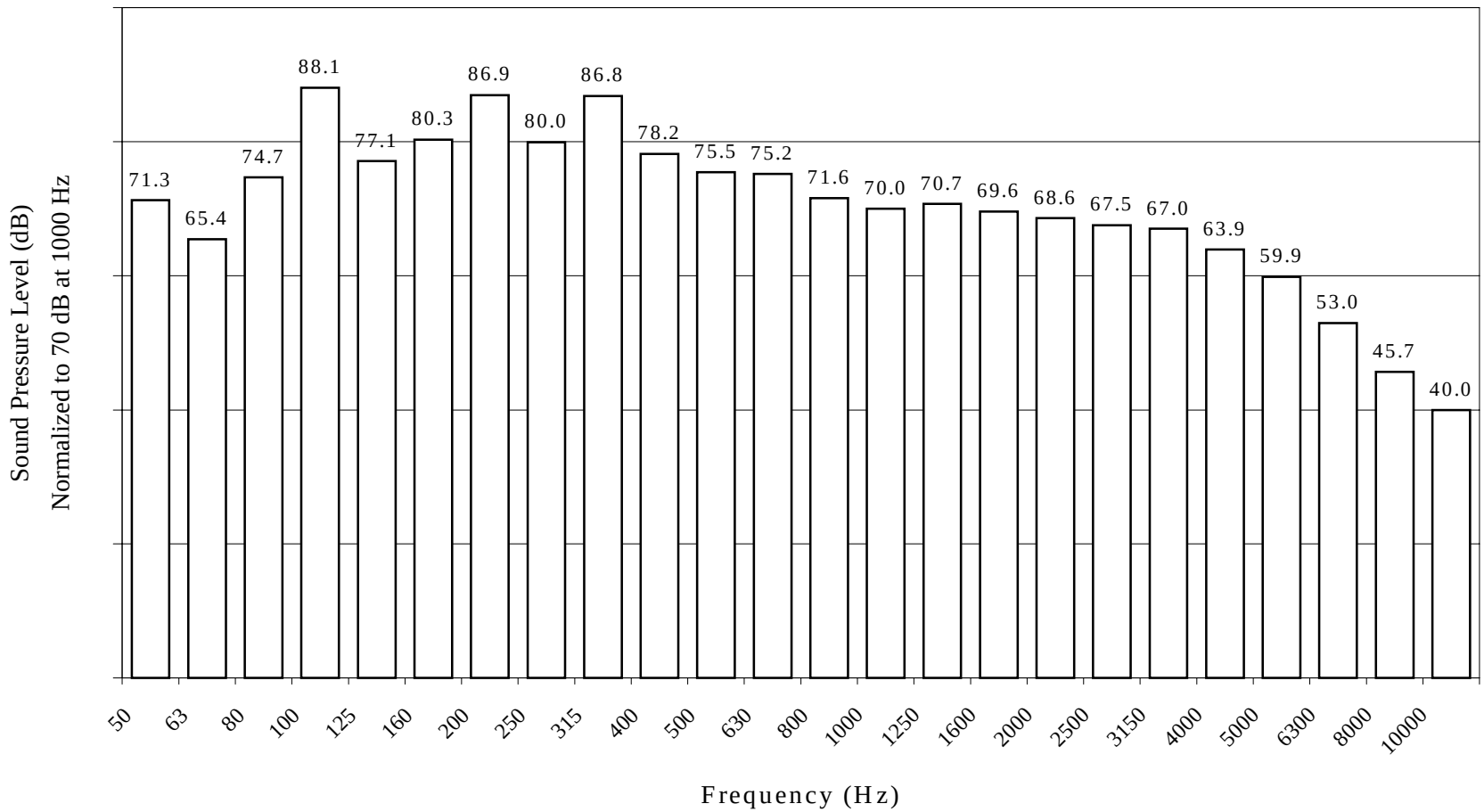

FIGURE 42. APPROACH SPECTRAL CLASS 211

INM Aircraft Descriptions:	Two engine turboprop aircraft
INM Aircraft ID:	SF340
	SD330 / JPATS

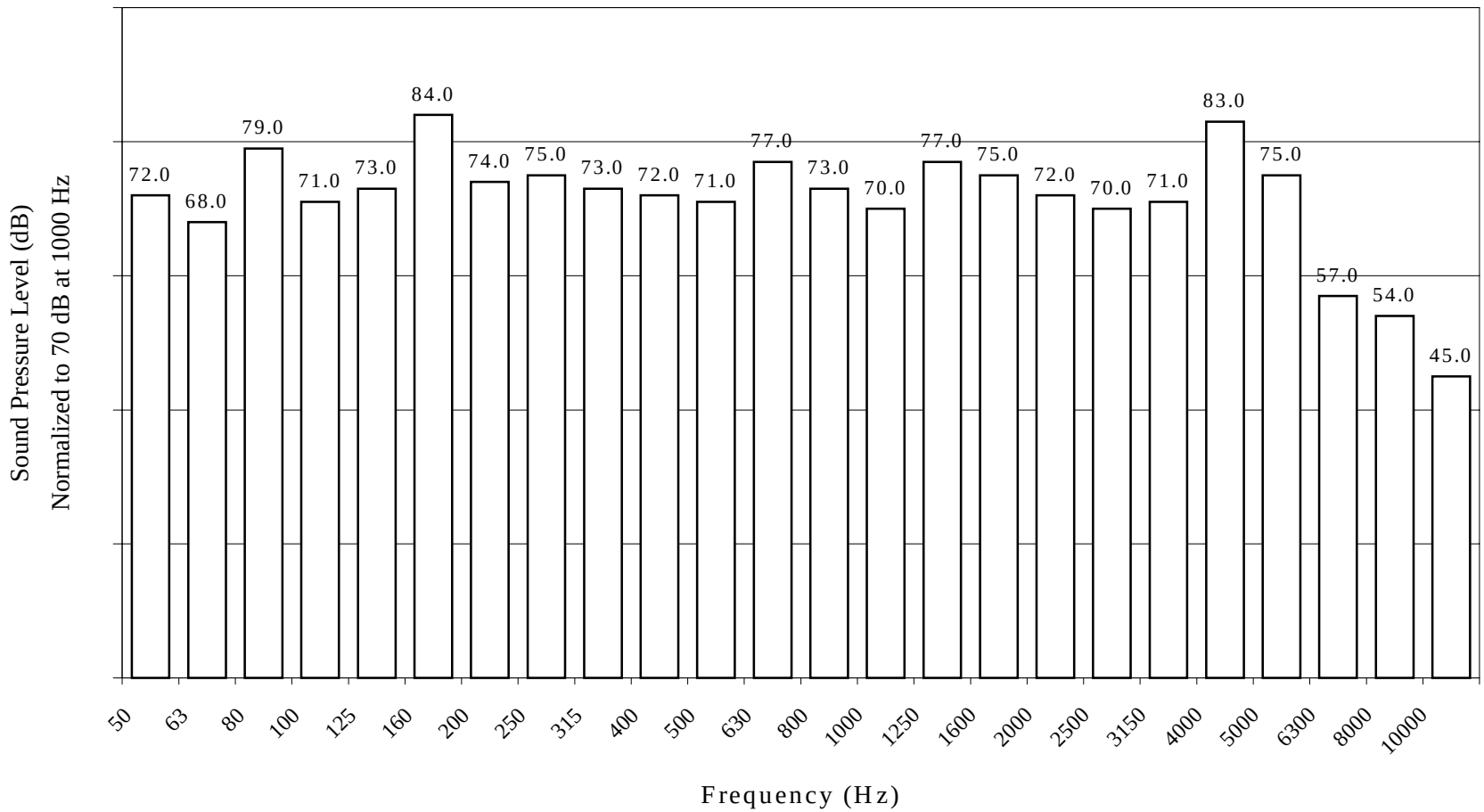

FIGURE 43. APPROACH SPECTRAL CLASS 212

INM Aircraft Descriptions:	Two engine turboprop aircraft
INM Aircraft ID:	HS748A

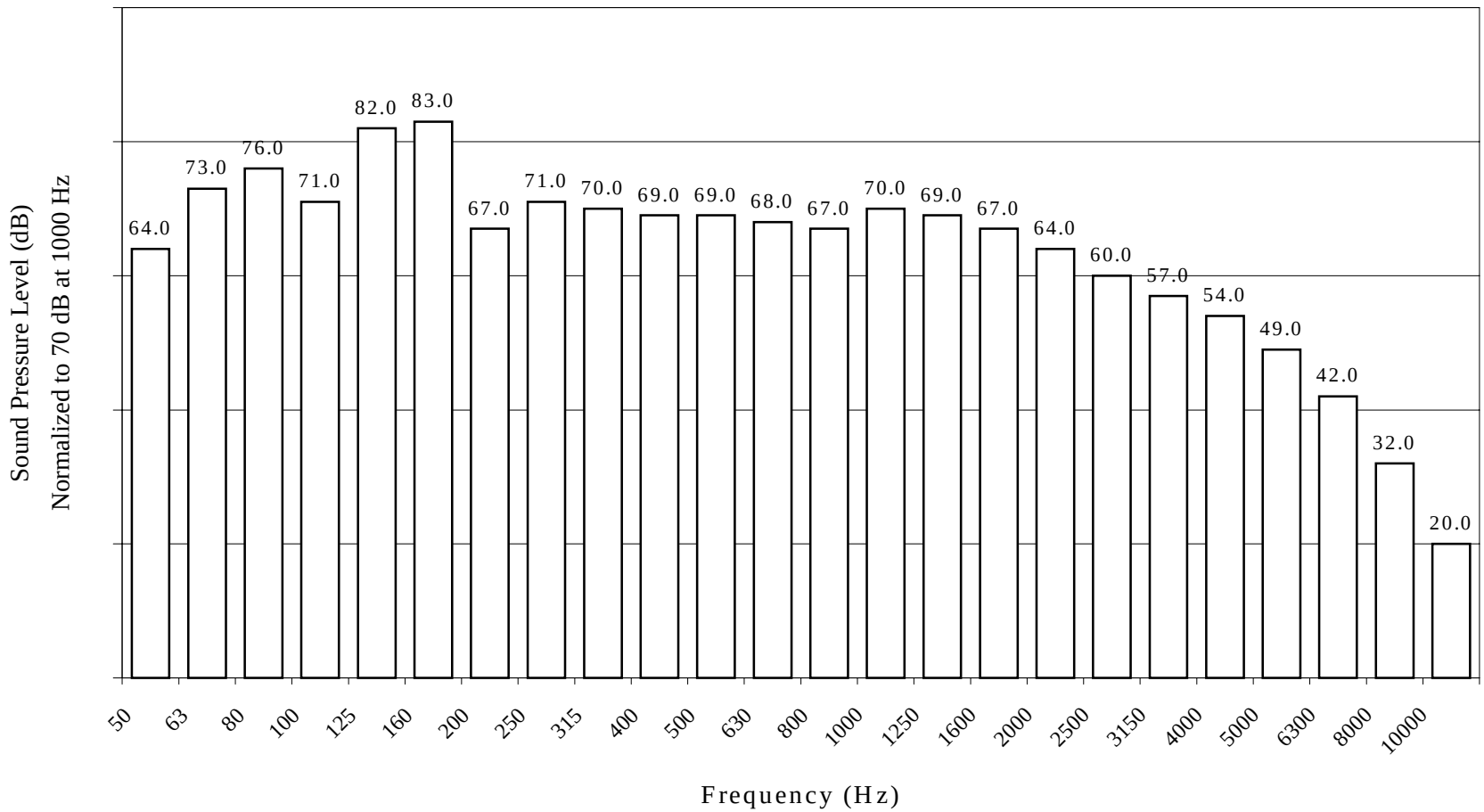

FIGURE 44. APPROACH SPECTRAL CLASS 213

INM Aircraft Descriptions:	Four engine turboprop and piston aircraft
INM Aircraft ID:	DC3 / DC6
	DHC7 / DHC8 / DHC830

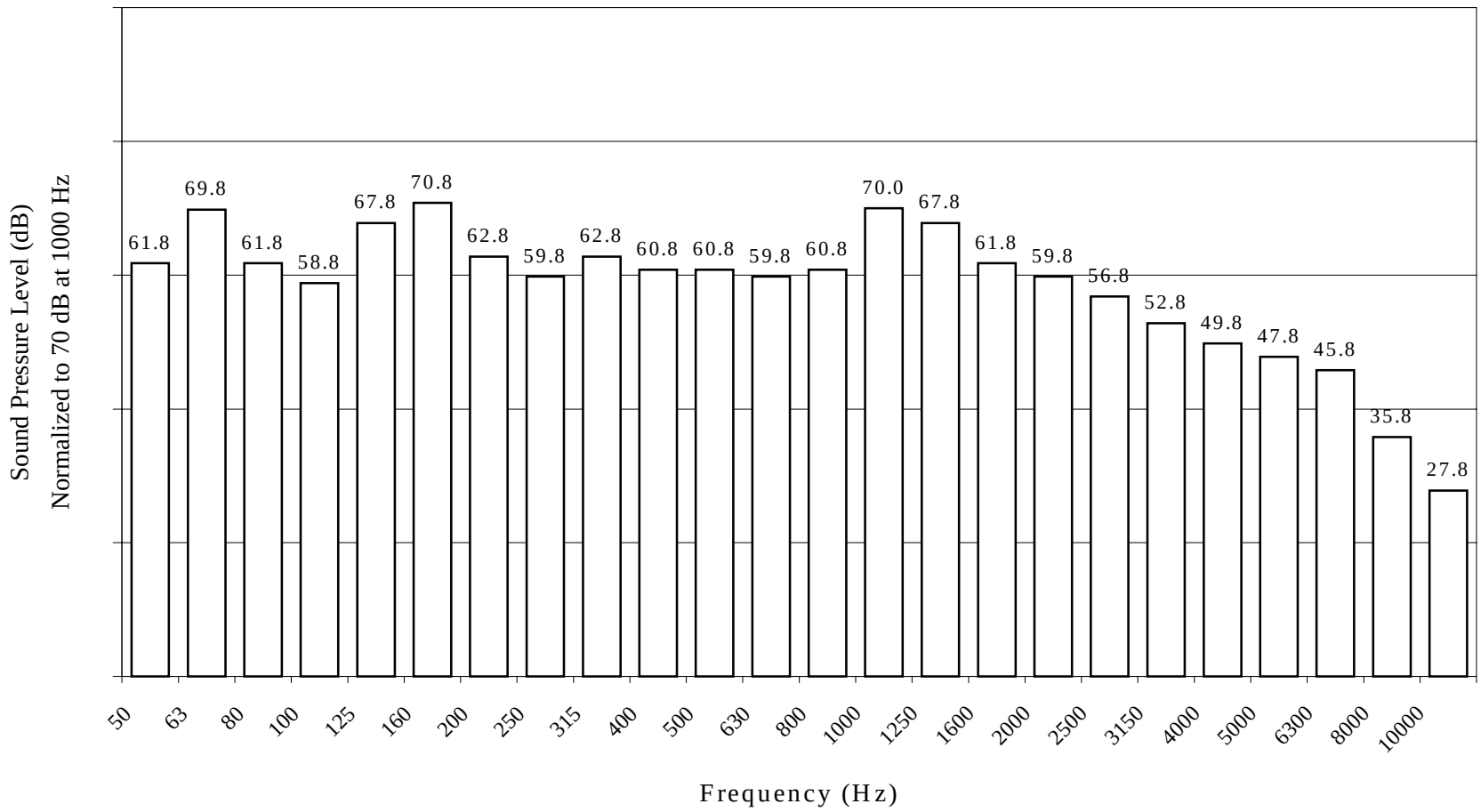

FIGURE 45. APPROACH SPECTRAL CLASS 214

INM Aircraft Descriptions:	Two and four engine turboprop aircraft
INM Aircraft ID:	L188 / CVR580

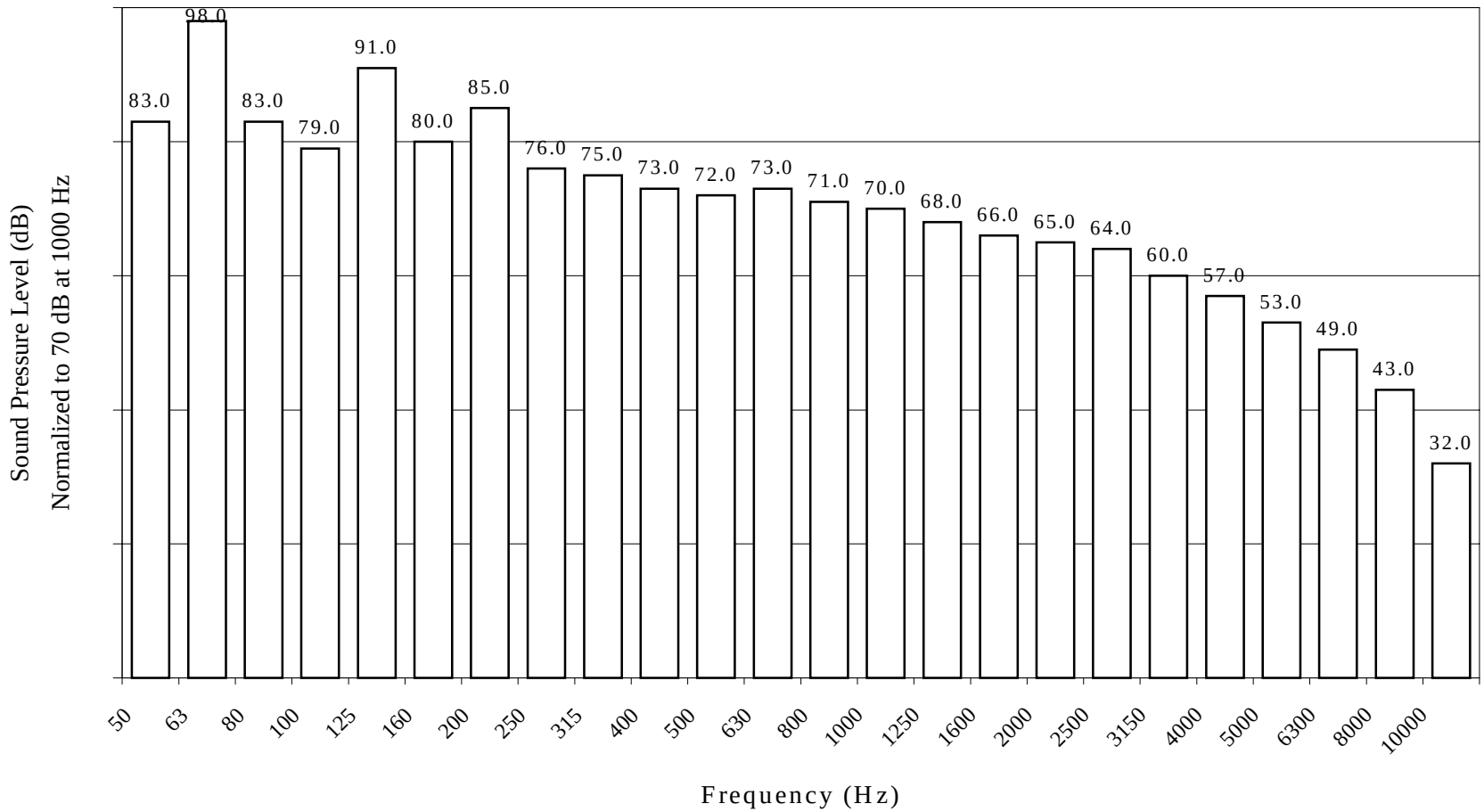

FIGURE 46. APPROACH SPECTRAL CLASS 215

INM Aircraft Descriptions:	One and two engine piston aircraft
INM Aircraft ID:	GASEPF / GASEPV / BEC58P COMSEP

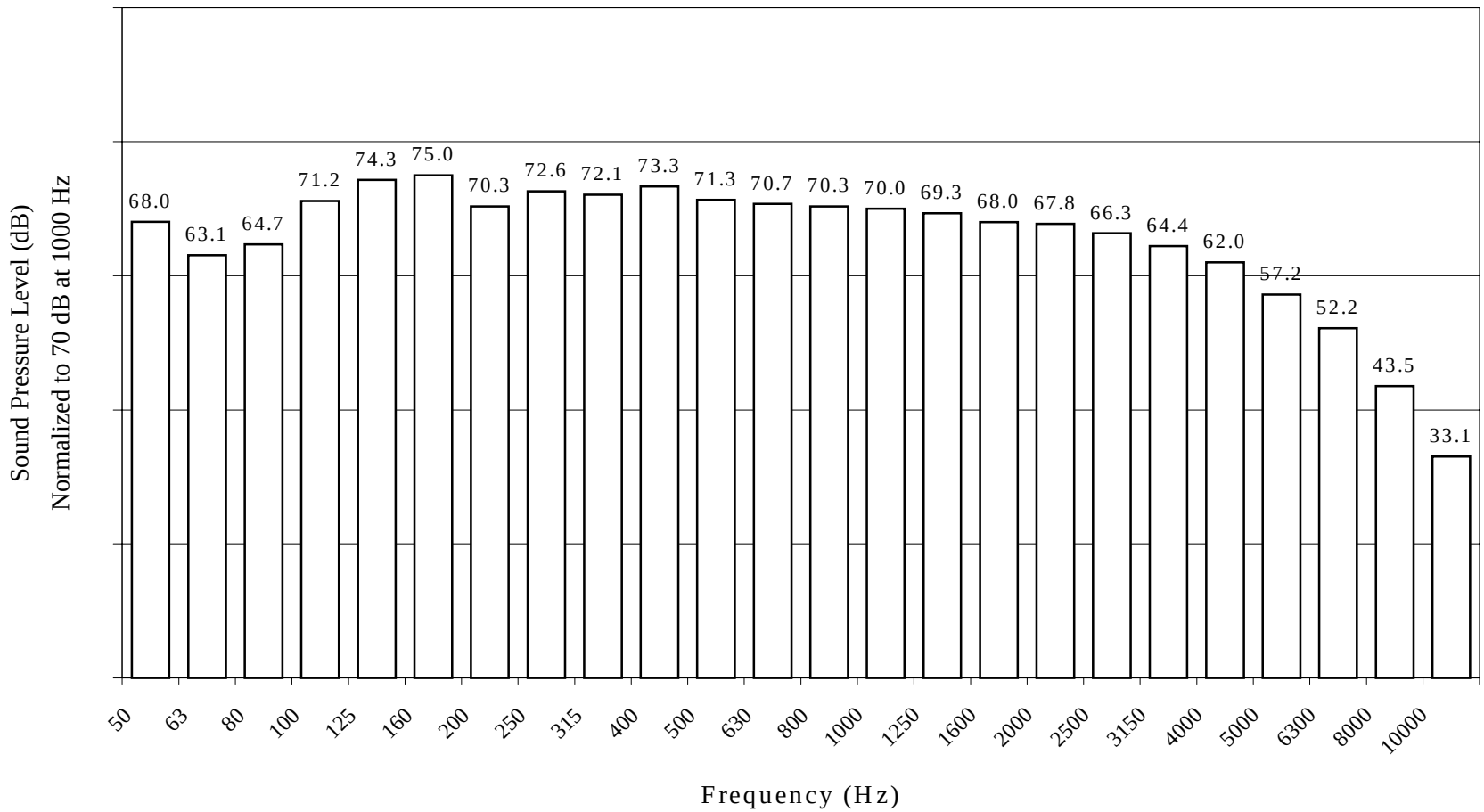

FIGURE 47. APPROACH SPECTRAL CLASS 216

INM Aircraft Descriptions:	Two engine turbojet and turbofan business aircraft	
INM Aircraft ID:	F28MK2 / F28MK4 / GIIB	CL600
	LEAR35	CL601
	CNA500	EMB145
	IA1125 / CIT3	COMJET

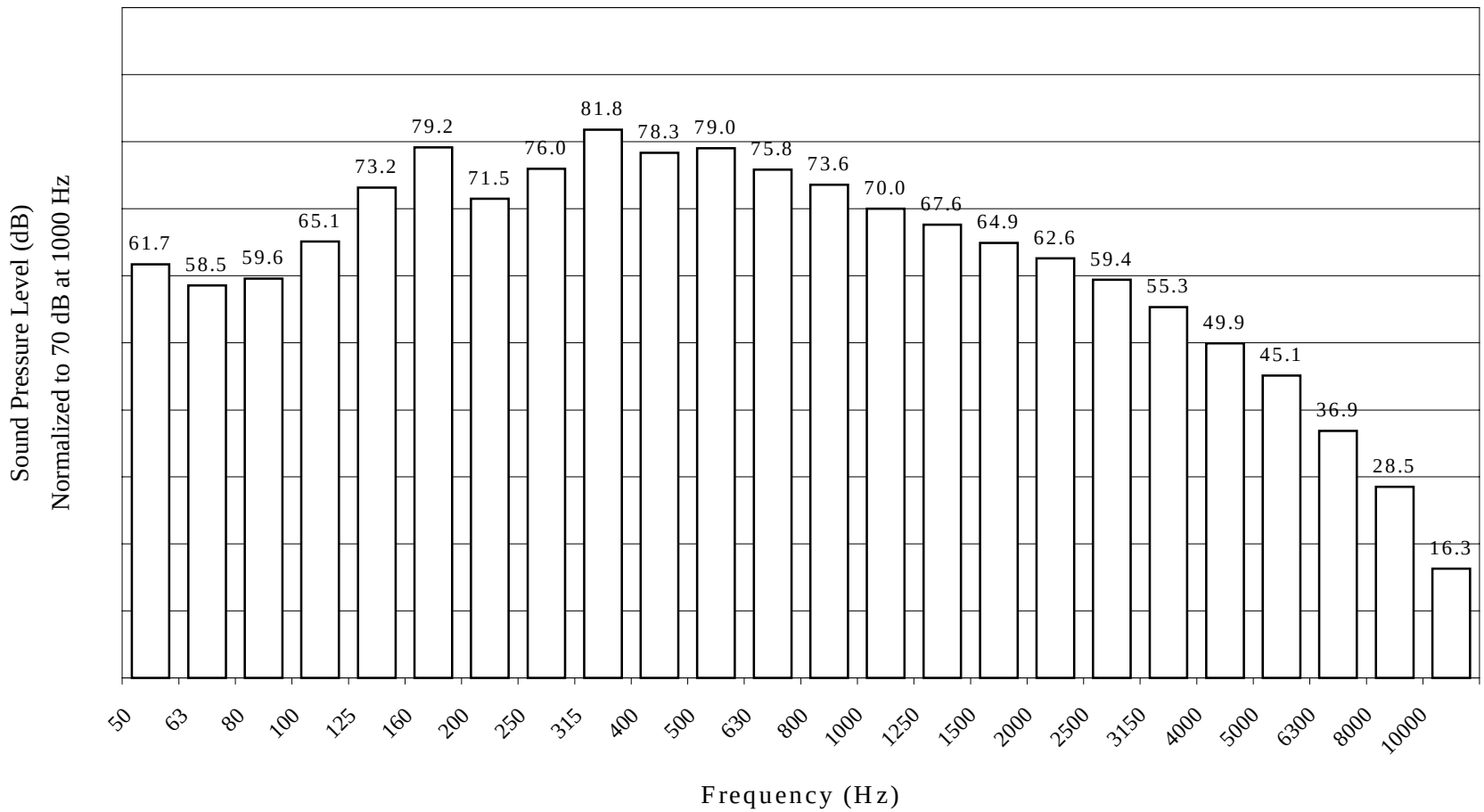

FIGURE 48. APPROACH SPECTRAL CLASS 217

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	A109
	BO150
	H500D

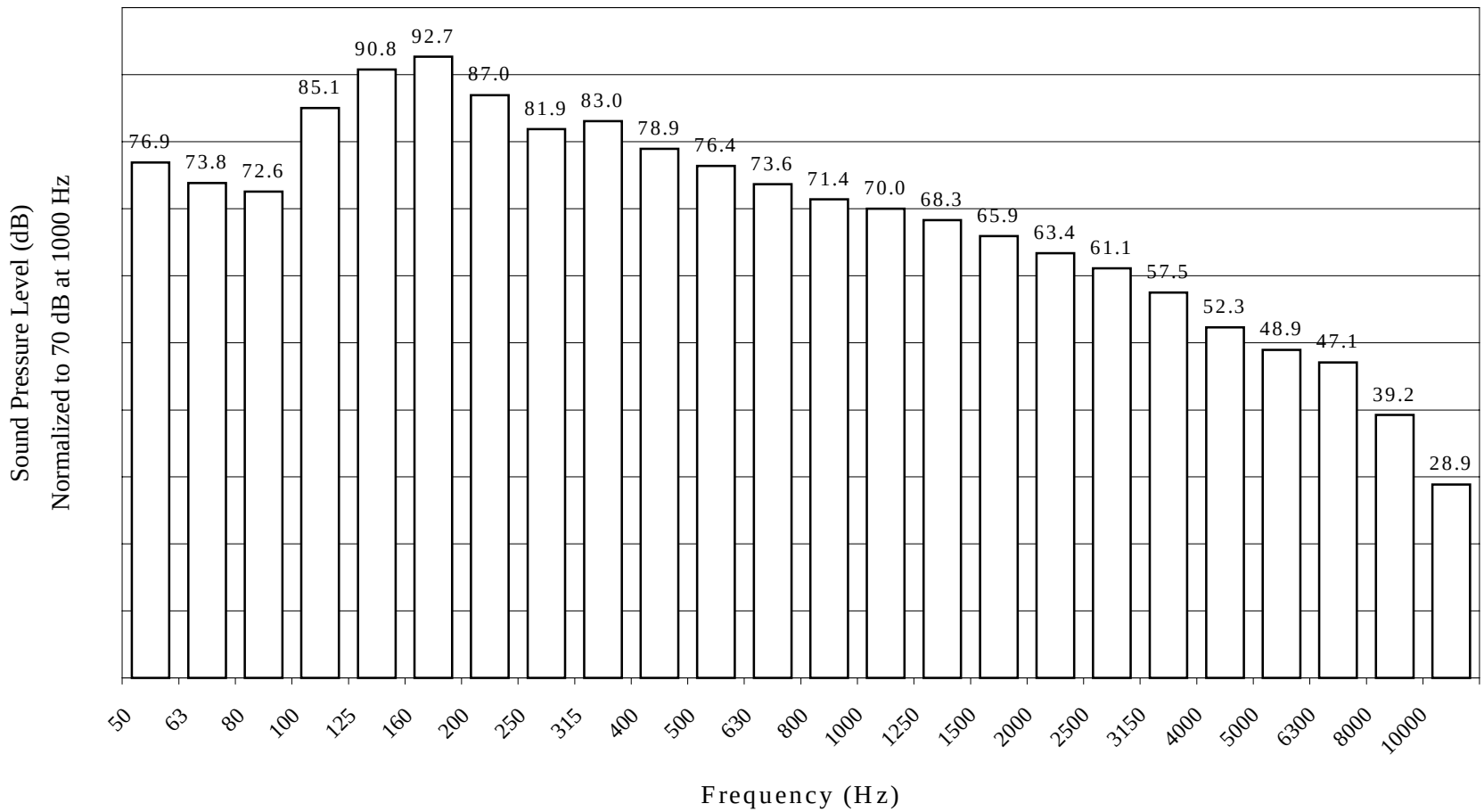

FIGURE 49. APPROACH SPECTRAL CLASS 218

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	B222
	S70
	SA330

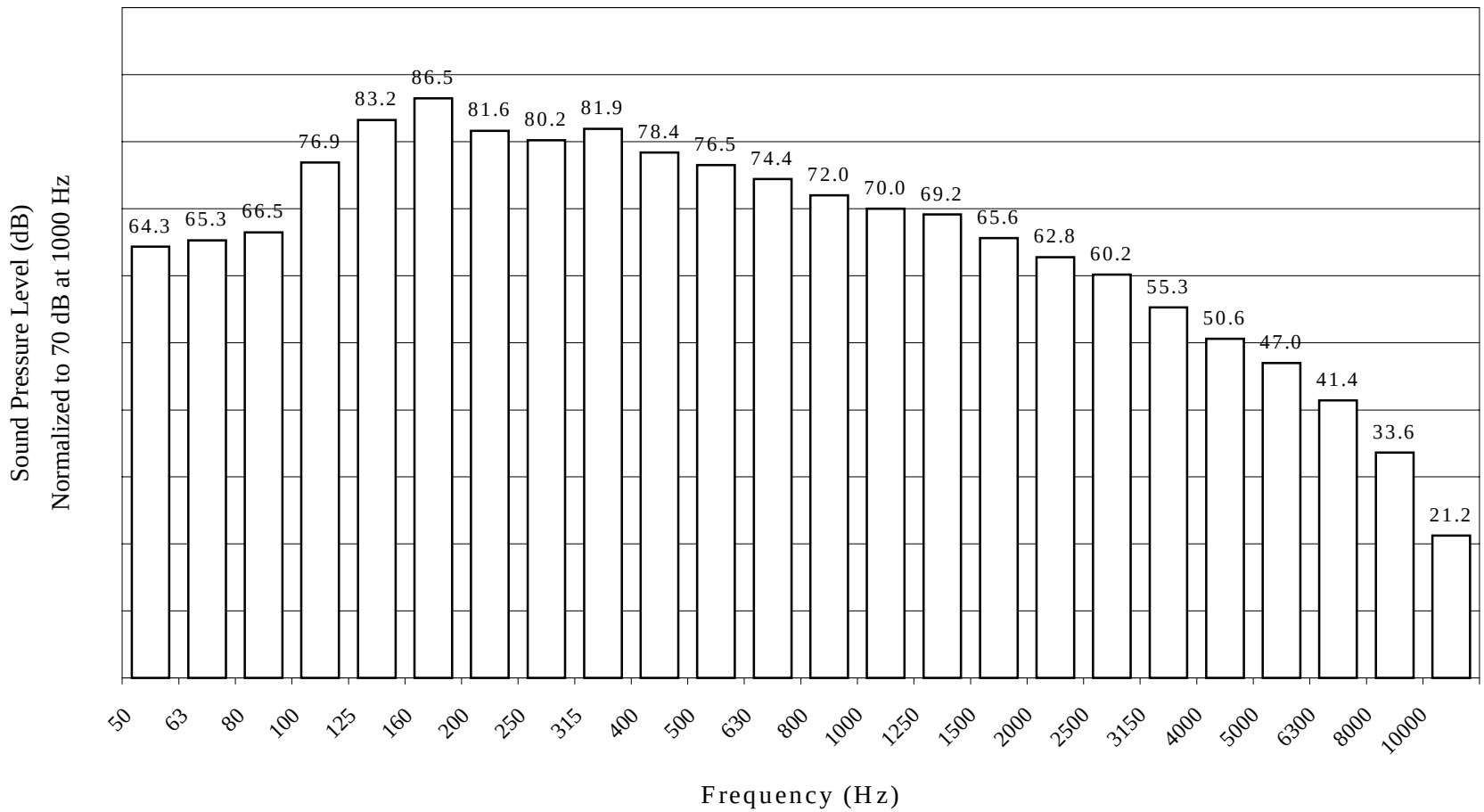

FIGURE 50. APPROACH SPECTRAL CLASS 219

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	S76
	S65
	S61
	SA350
	SA341

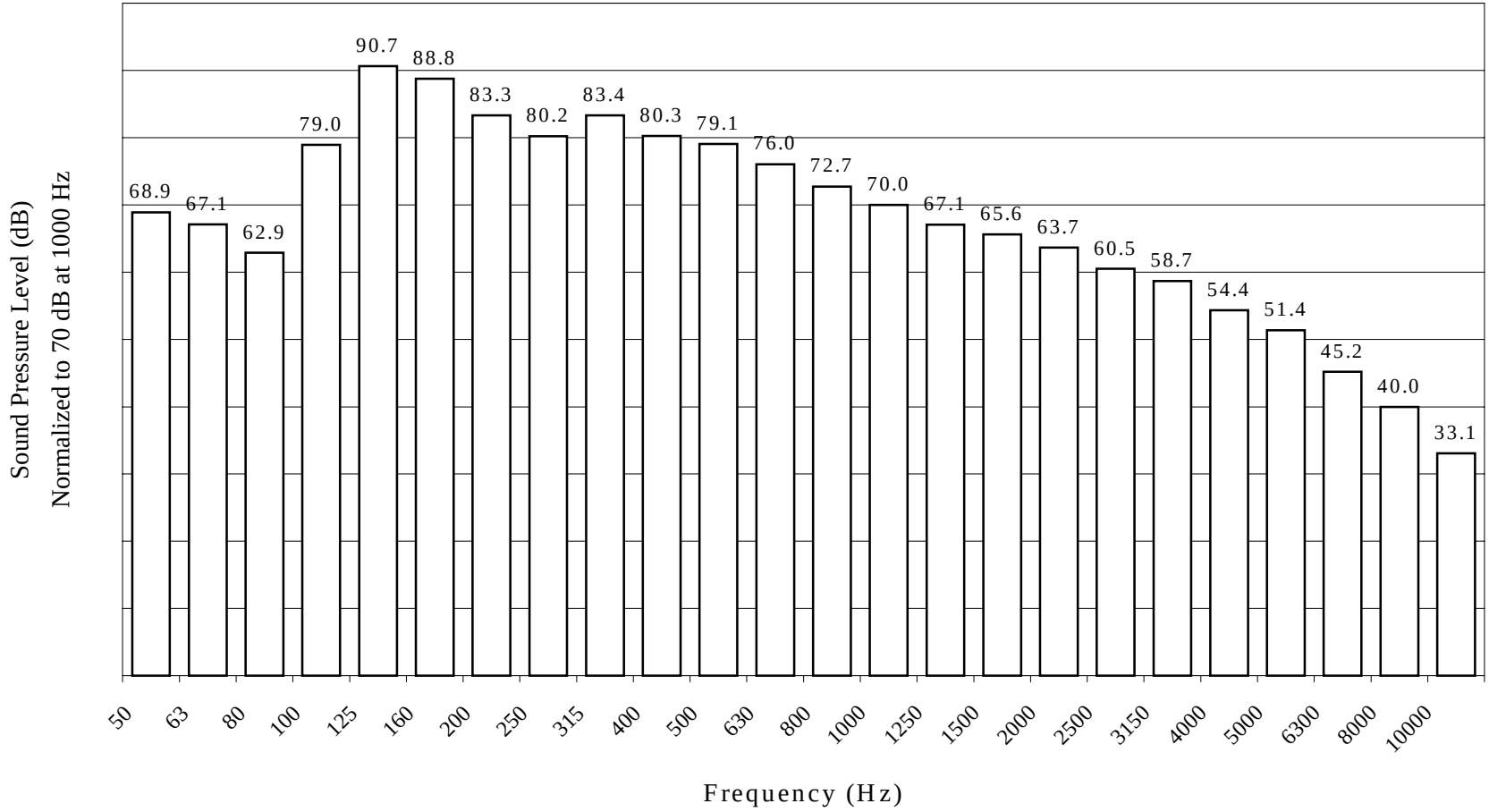

FIGURE 51. APPROACH SPECTRAL CLASS 220

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	SA365
	SA355

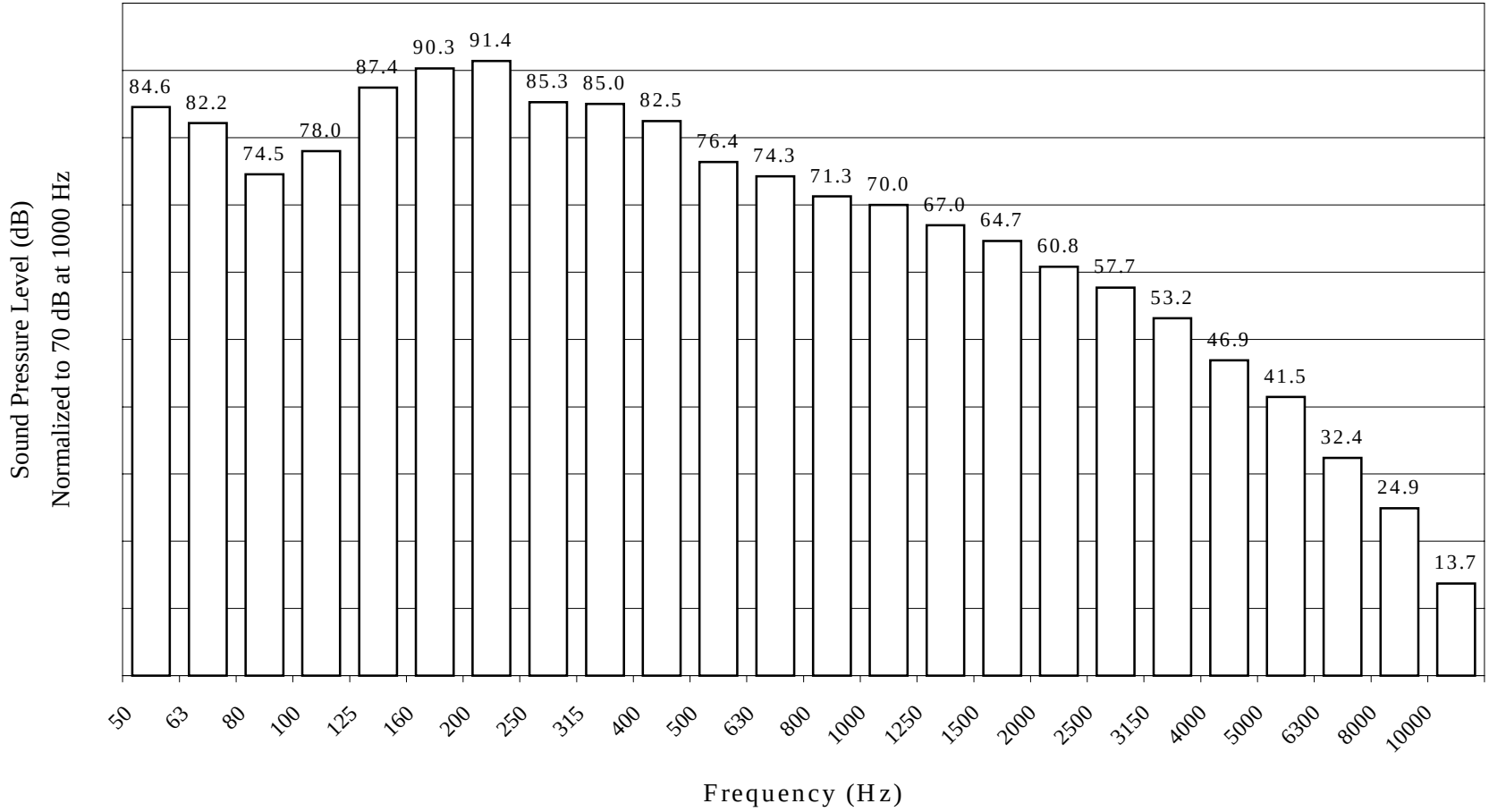

FIGURE 52. APPROACH SPECTRAL CLASS 221

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	CH47D
	B212

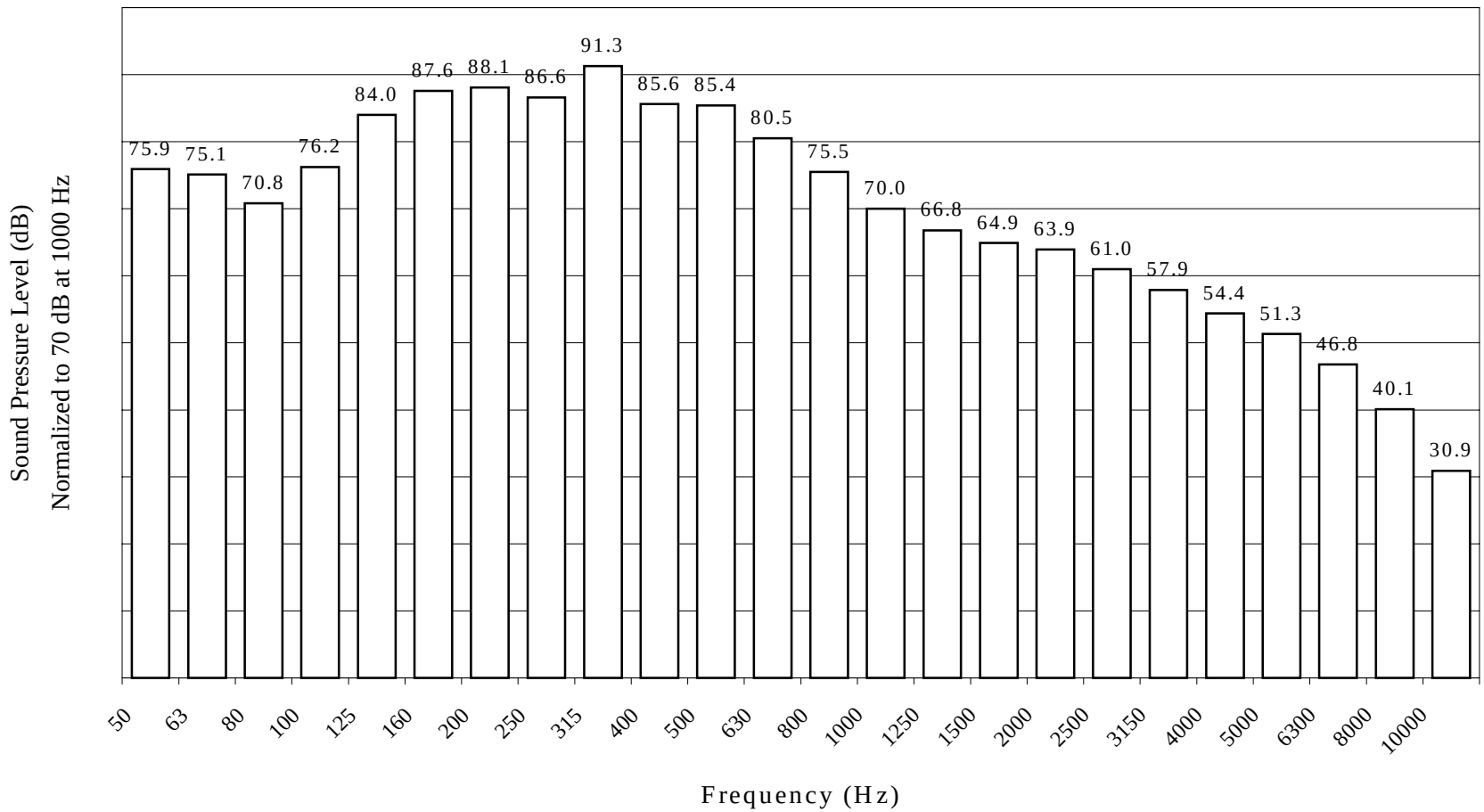

FIGURE 53. APPROACH SPECTRAL CLASS 222

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	B206L

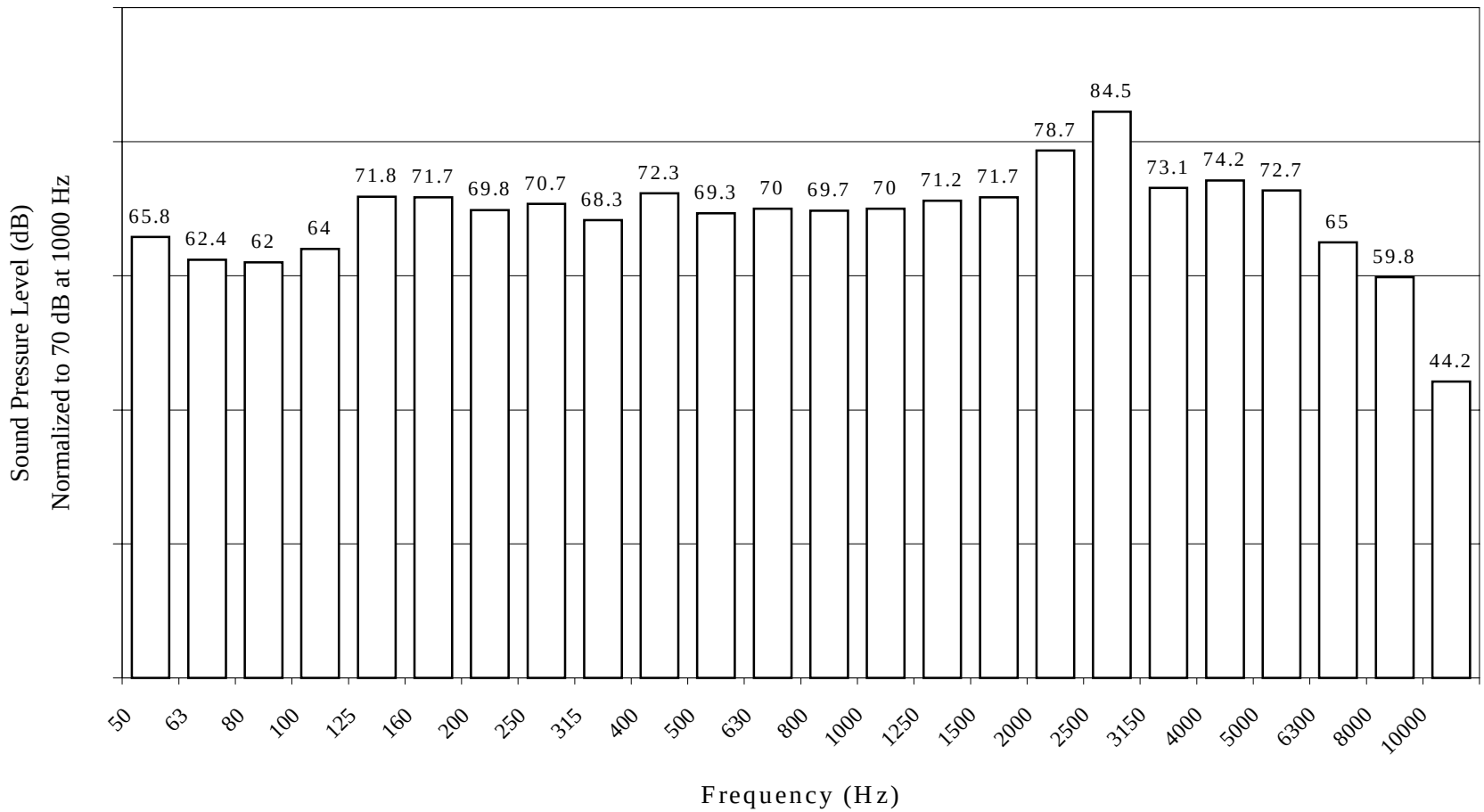

FIGURE 54. APPROACH SPECTRAL CLASS 223

INM Aircraft Descriptions:	Military Aircraft	
INM Aircraft ID:	A10A	C141A
	B52H	F14A
	C135B	S3A&B
	C137	

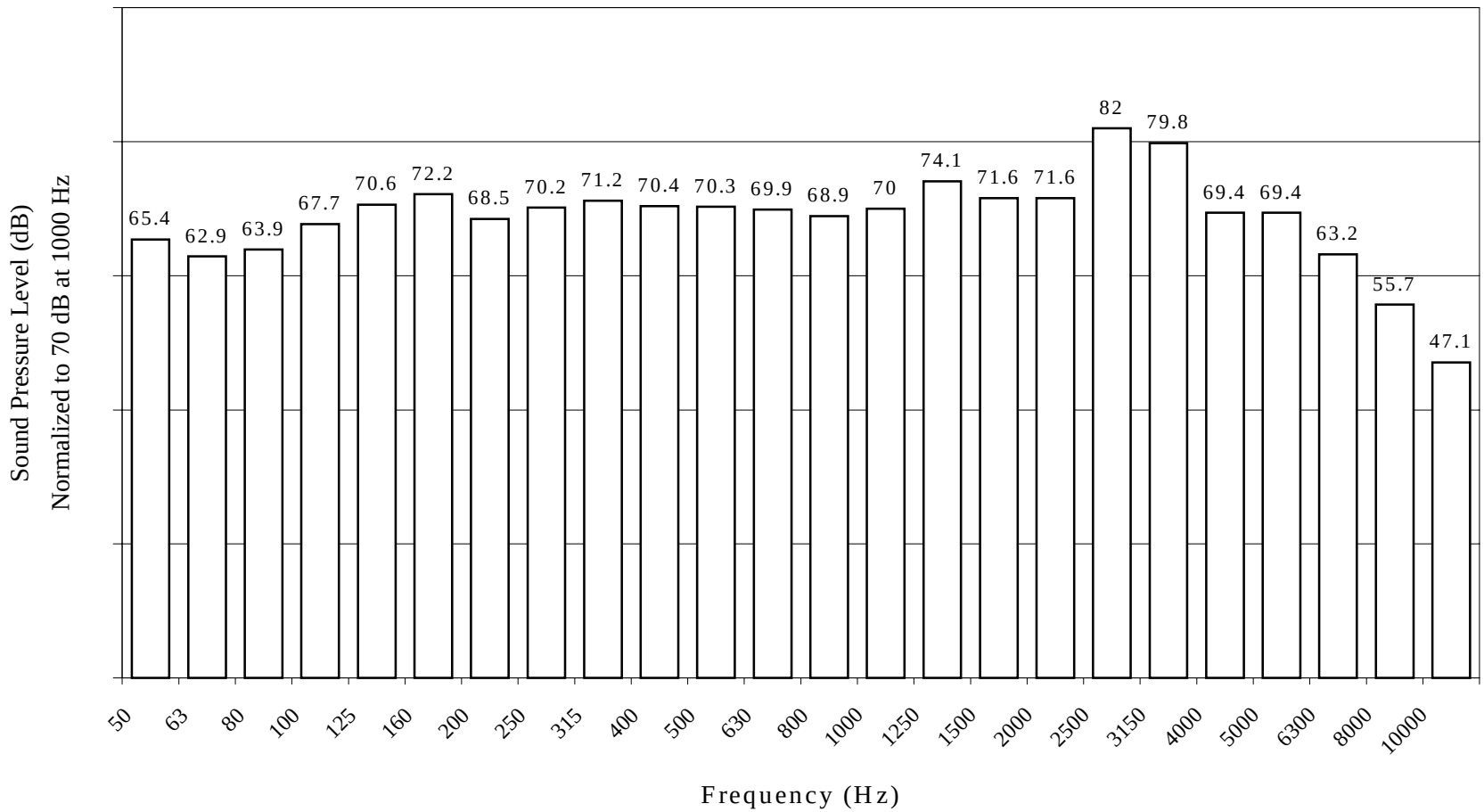

FIGURE 55. APPROACH SPECTRAL CLASS 224

INM Aircraft Descriptions:	Military Aircraft		
INM Aircraft ID:	B2A	E3A	KC10A
	C17	E4	
	C18A / E8A	T-43A	
	C5A	HS748	
	C22 / C9A	T1	

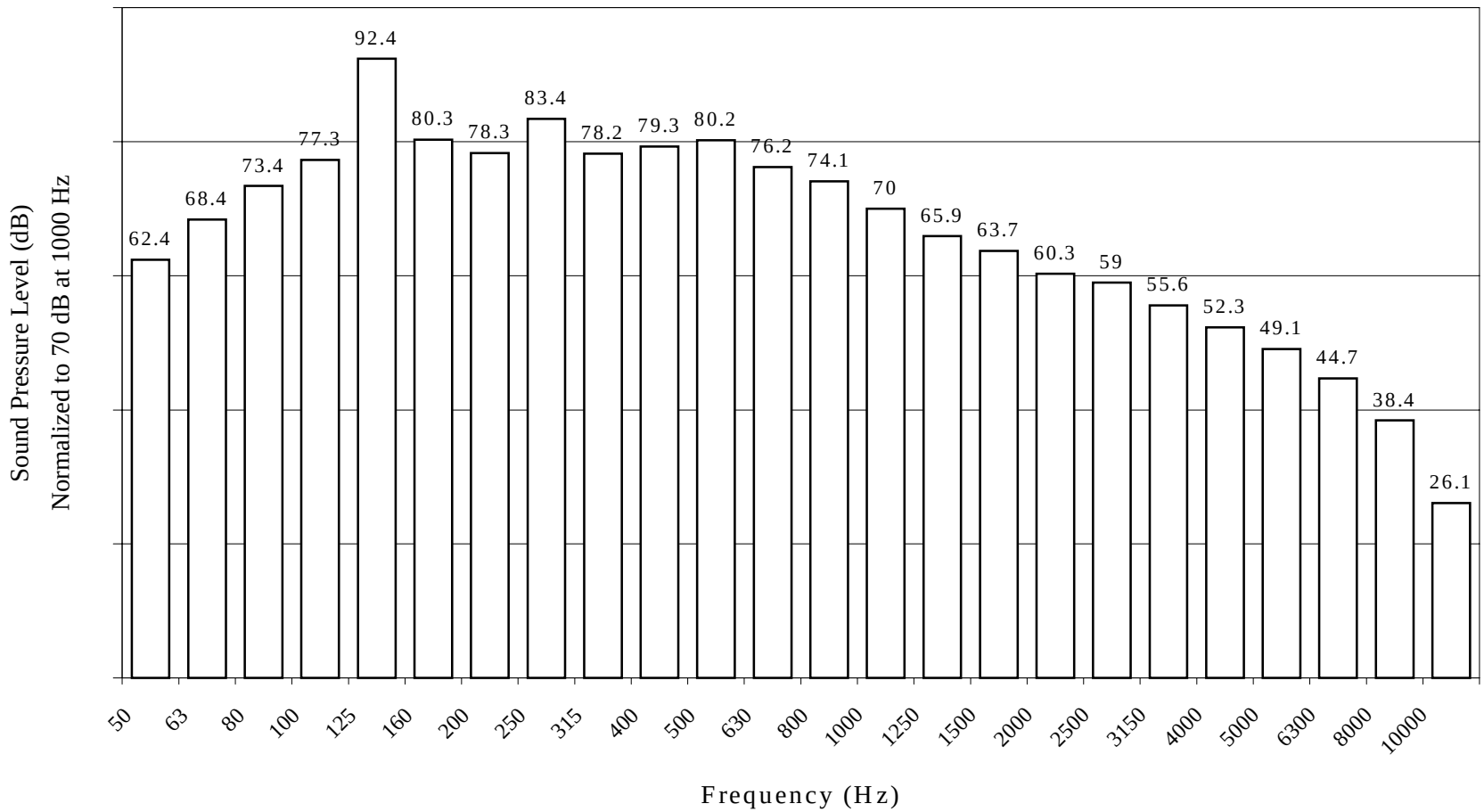

FIGURE 56. APPROACH SPECTRAL CLASS 225

INM Aircraft Descriptions:	Military Aircraft	
INM Aircraft ID:	C119L	P3A
	C121	P3C
	C7A	T3 / T42 / U8
	KC97L	YC14

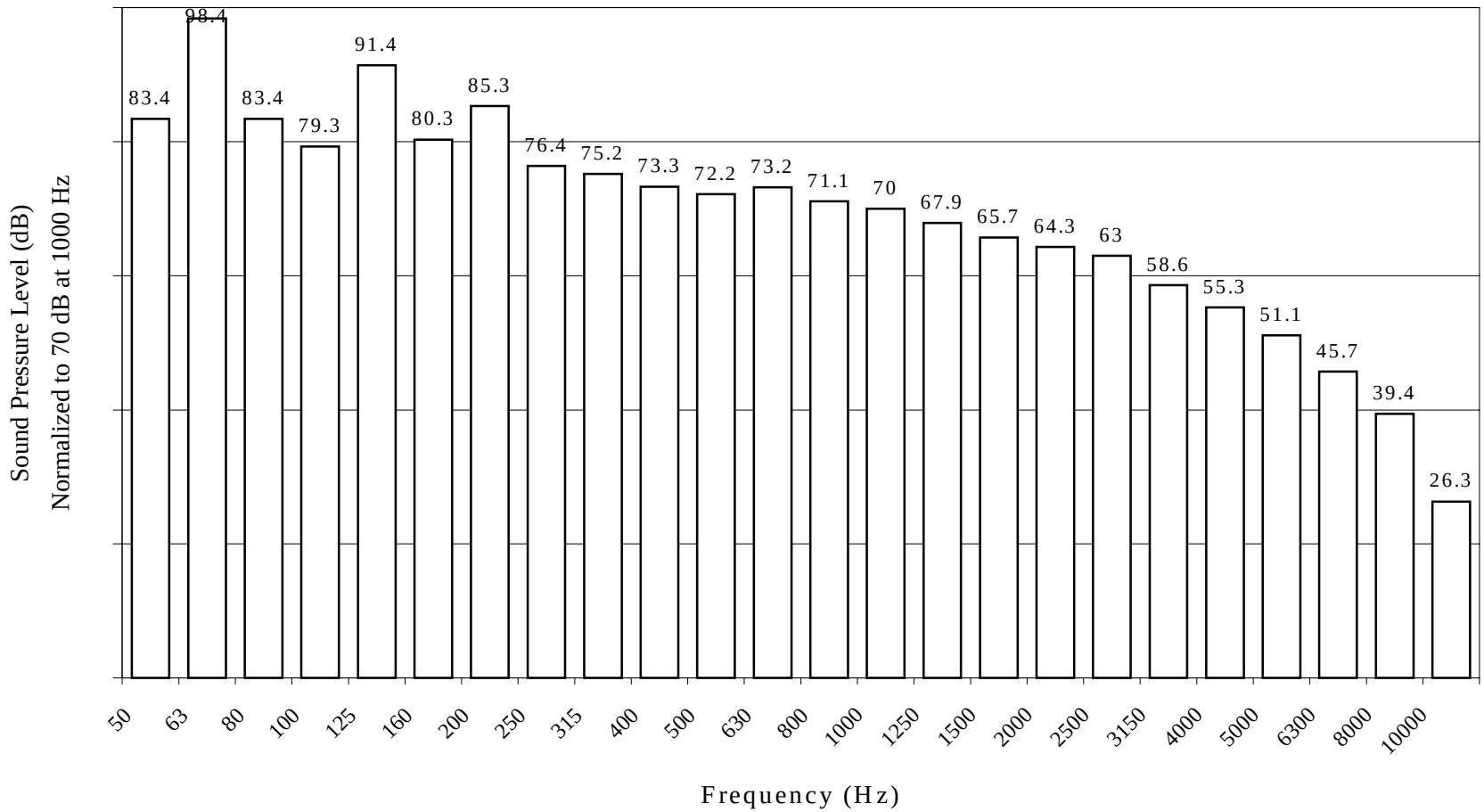

FIGURE 57. APPROACH SPECTRAL CLASS 226

INM Aircraft Descriptions:	Military Aircraft
INM Aircraft ID:	SR71
	T34 / T41 / U6

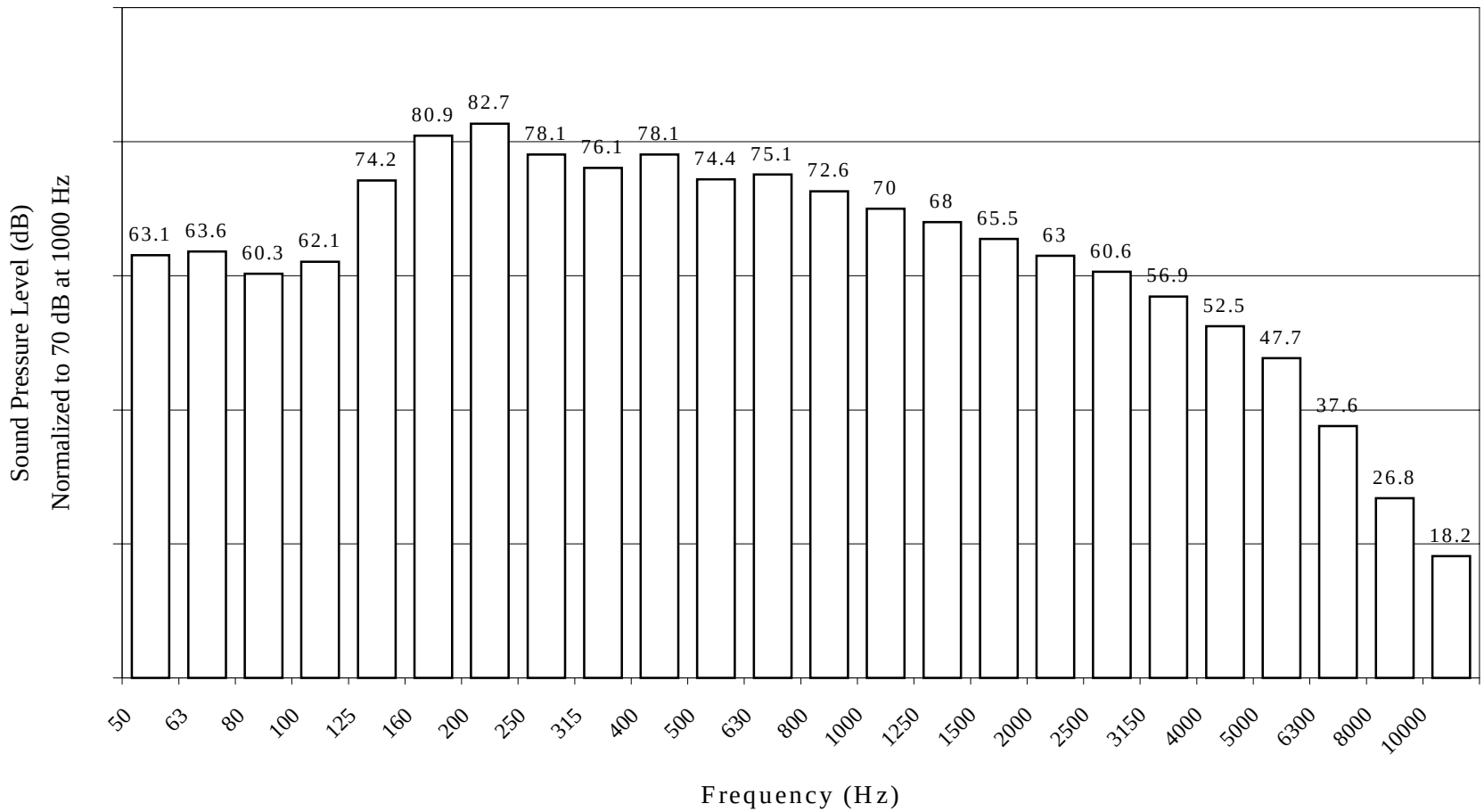

FIGURE 58. APPROACH SPECTRAL CLASS 227

INM Aircraft Descriptions:	Military Aircraft
INM Aircraft ID:	A5C
	C118 / C123K / T29
	C131B
	T45

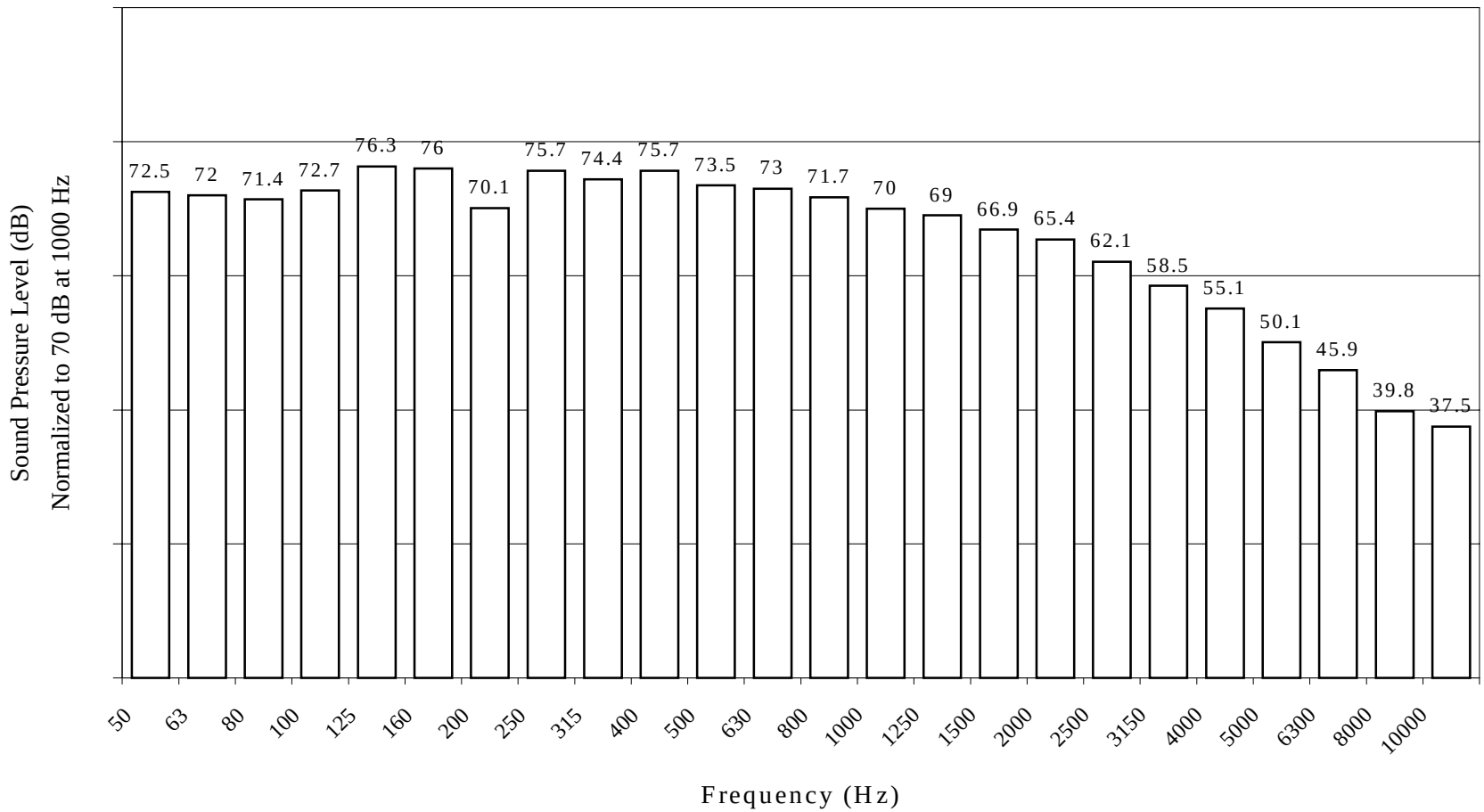

FIGURE 59. APPROACH SPECTRAL CLASS 228

INM Aircraft Descriptions:	Military Aircraft
INM Aircraft ID:	C12 / C23 / T44 / U21
	C21A
	F15A / F15E20 / F15E29
	OV10A
	U4B

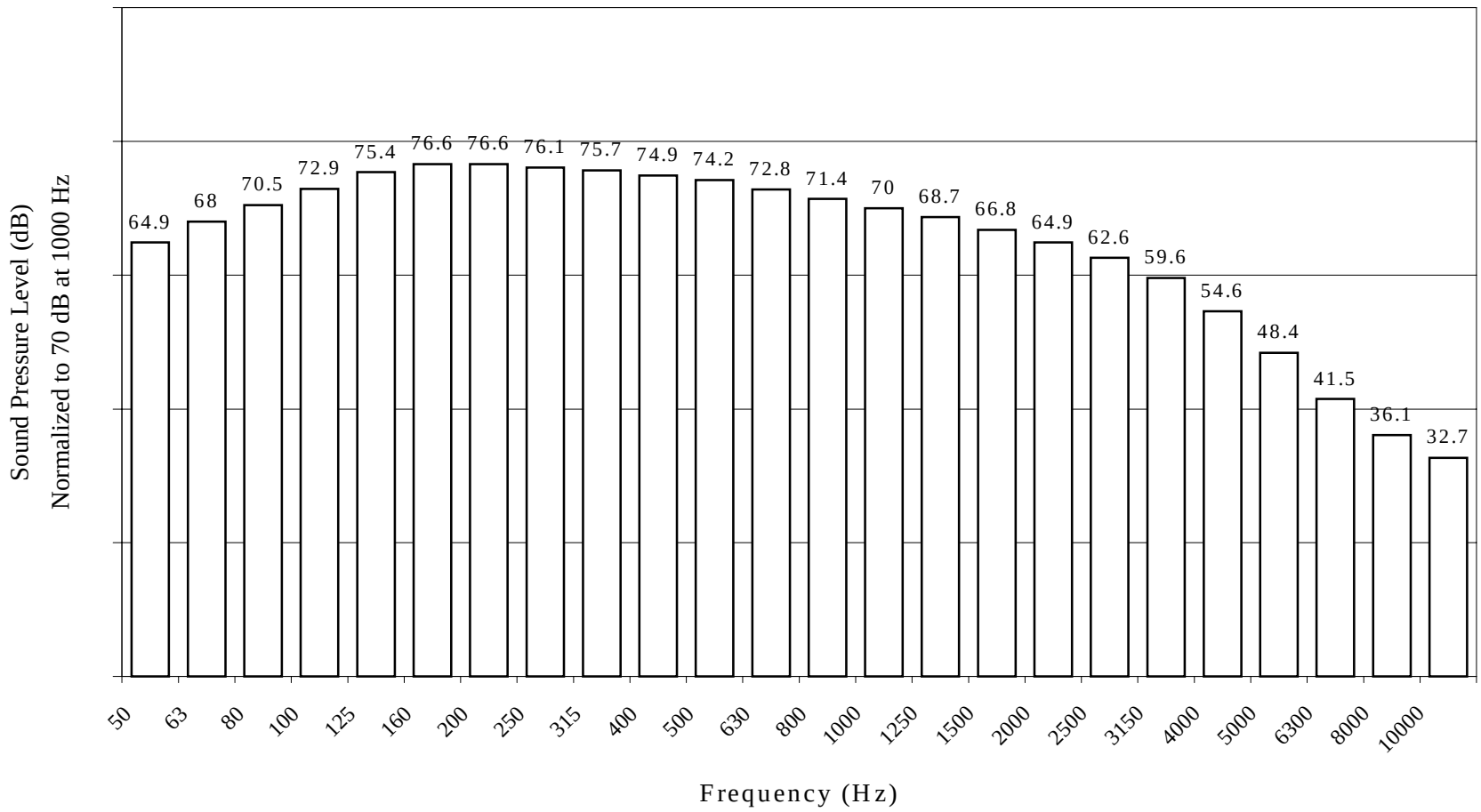

FIGURE 60. APPROACH SPECTRAL CLASS 229

INM Aircraft Descriptions:	Military Aircraft	
INM Aircraft ID:	B1	FB111A
	F16PW0	PHANTO
	C-20	
	F111A / F111D / F-111F	
	F16A	

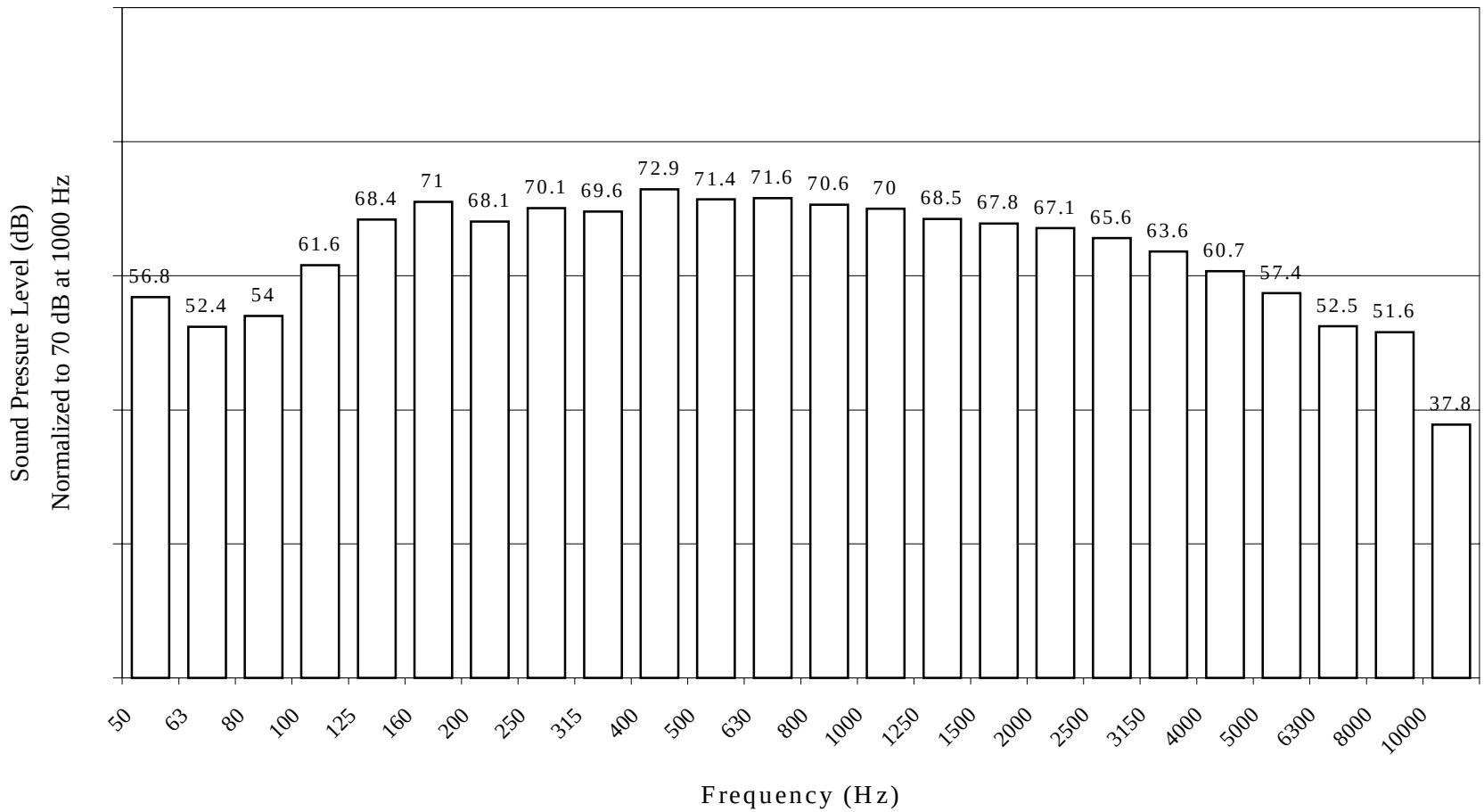

FIGURE 61. APPROACH SPECTRAL CLASS 230

INM Aircraft Descriptions:	Military Aircraft		
INM Aircraft ID:	A3 / F100D / F101B / F102 / F8	BUCCAN	JAGUAR
	A4C	C135A	LIGHTN
	A7E/A7D	C140 / T39A	PROVOS
	B52BDE / B52G	CANBER	T-2C
	B57E	HUNTER	VICTOR

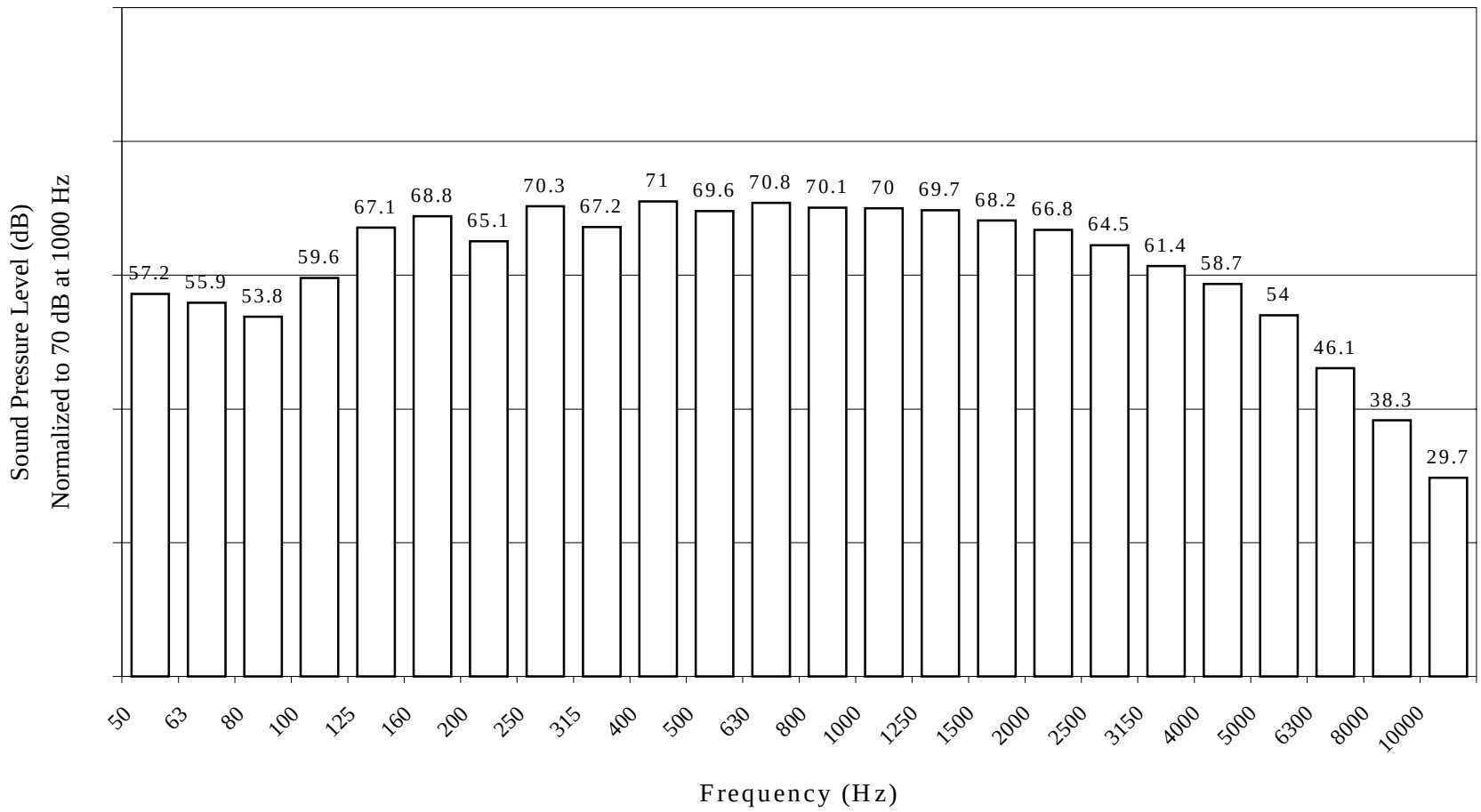

FIGURE 62. APPROACH SPECTRAL CLASS 231

INM Aircraft Descriptions:	Military Aircraft		
INM Aircraft ID:	A37	F5A / F5E	VC10
	AV8A	HARRIE	YC15
	AV8B	HAWK	
	DOMIN	T33A	
	F104G	T-38A	

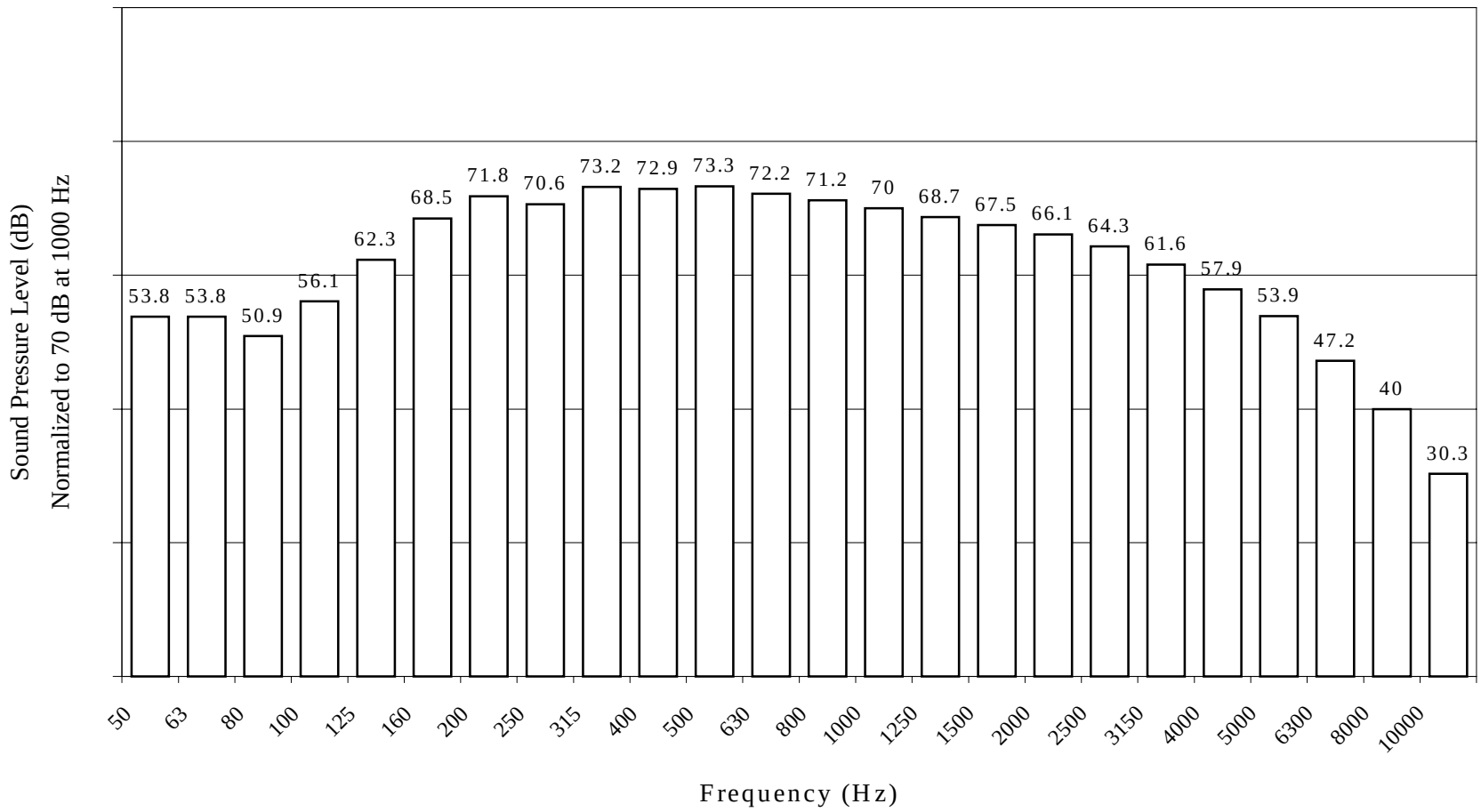

FIGURE 63. APPROACH SPECTRAL CLASS 232

INM Aircraft Descriptions:	Military Aircraft	
INM Aircraft ID:	F18A	F14B
	F18EF	
	T37B	
	F16PW9	
	F16GE	

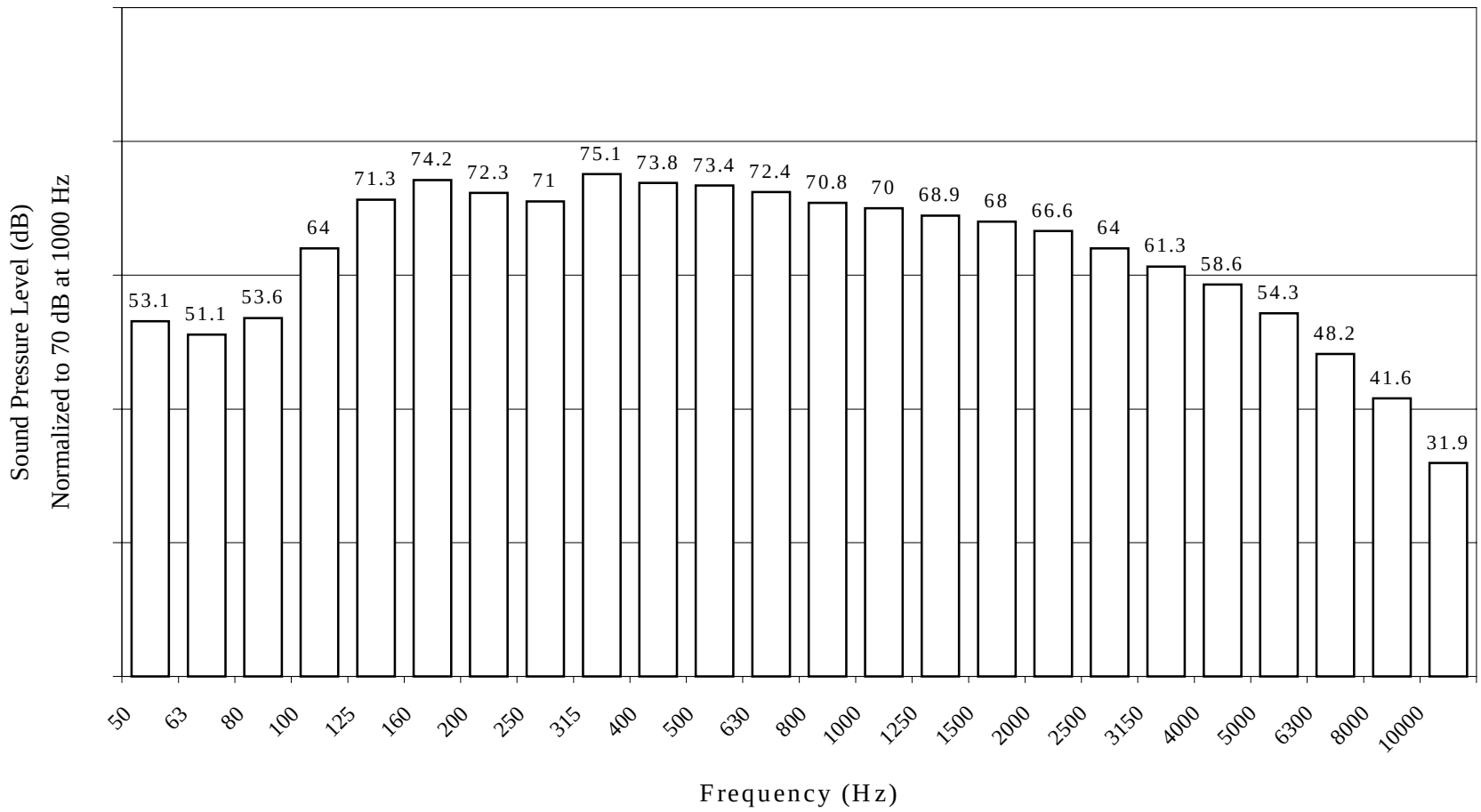

FIGURE 64. APPROACH SPECTRAL CLASS 233

INM Aircraft Descriptions:	Military Aircraft	
INM Aircraft ID:	A6A / EA6B	KC135R
	F105D / TR1	NIMROD
	F106	TORNAD
	F117A	VULCAN
	F4C	U2

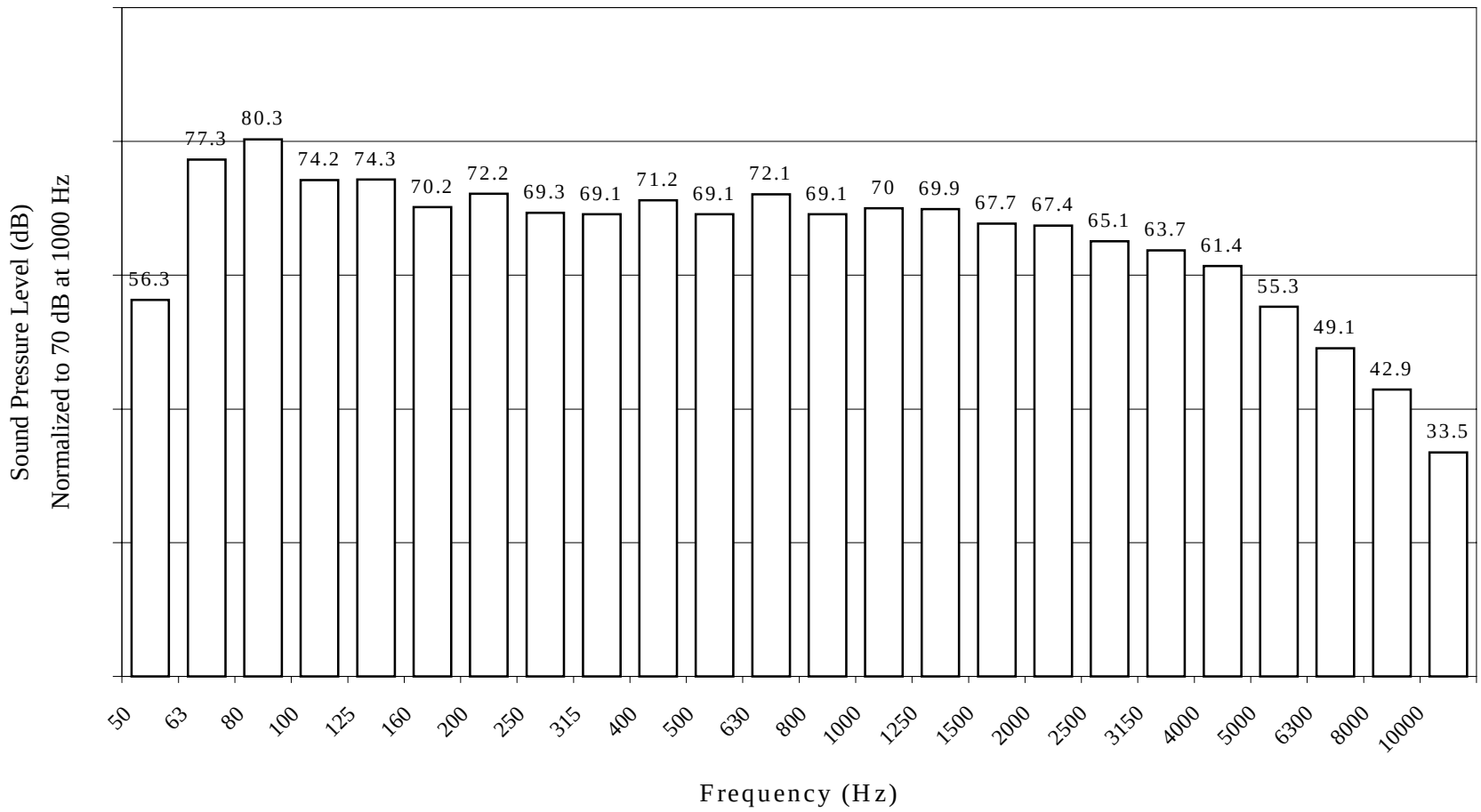

FIGURE 65. APPROACH SPECTRAL CLASS 234

INM Aircraft Descriptions:	Military Aircraft
INM Aircraft ID:	C-130E / C130 / C130AD / C130E / C130HP

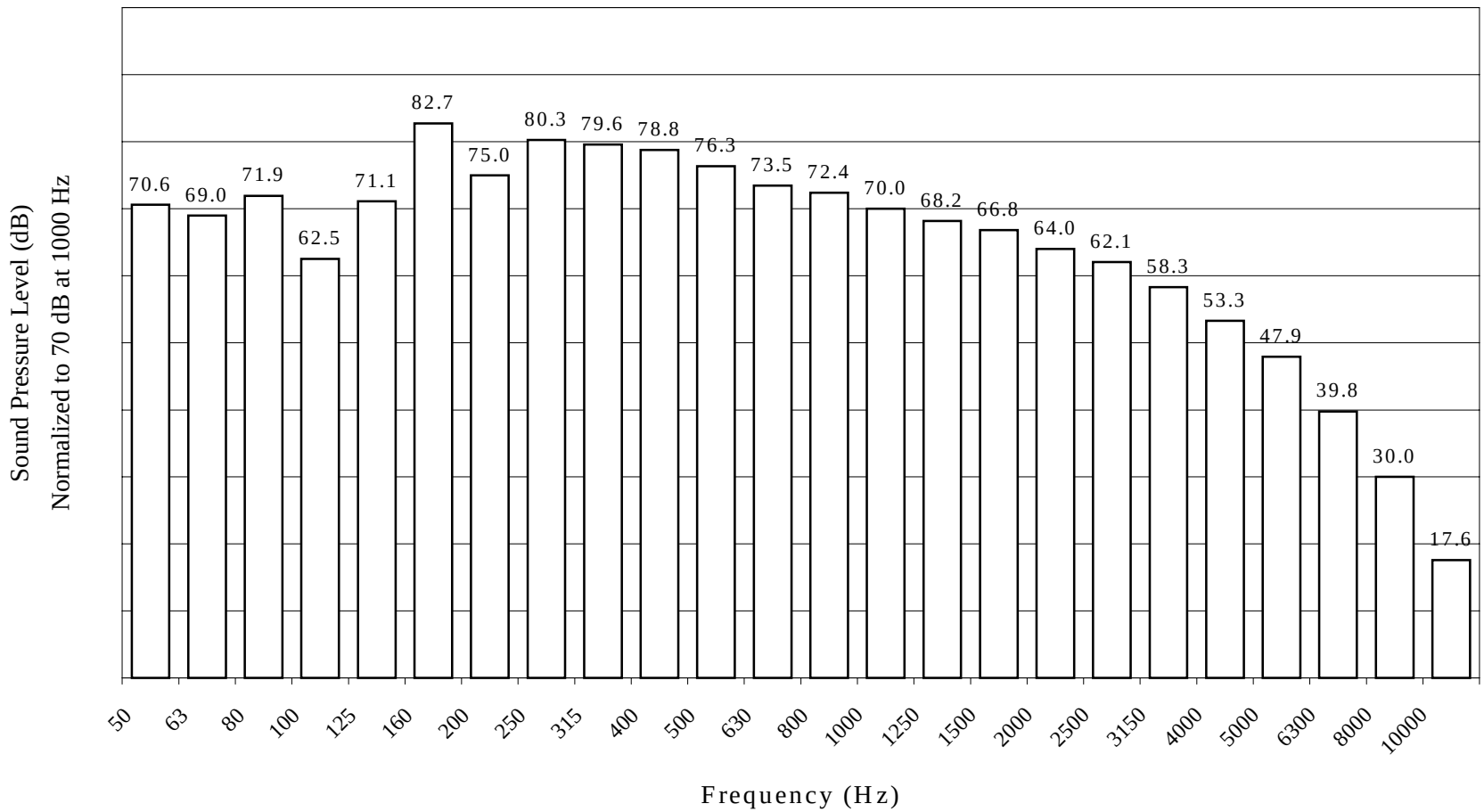

FIGURE 66. FLYOVER SPECTRAL CLASS 301

<u>INM Aircraft Descriptions:</u>	Helicopter
<u>INM Aircraft ID:</u>	A109
	BO150
	SA350
	SA355

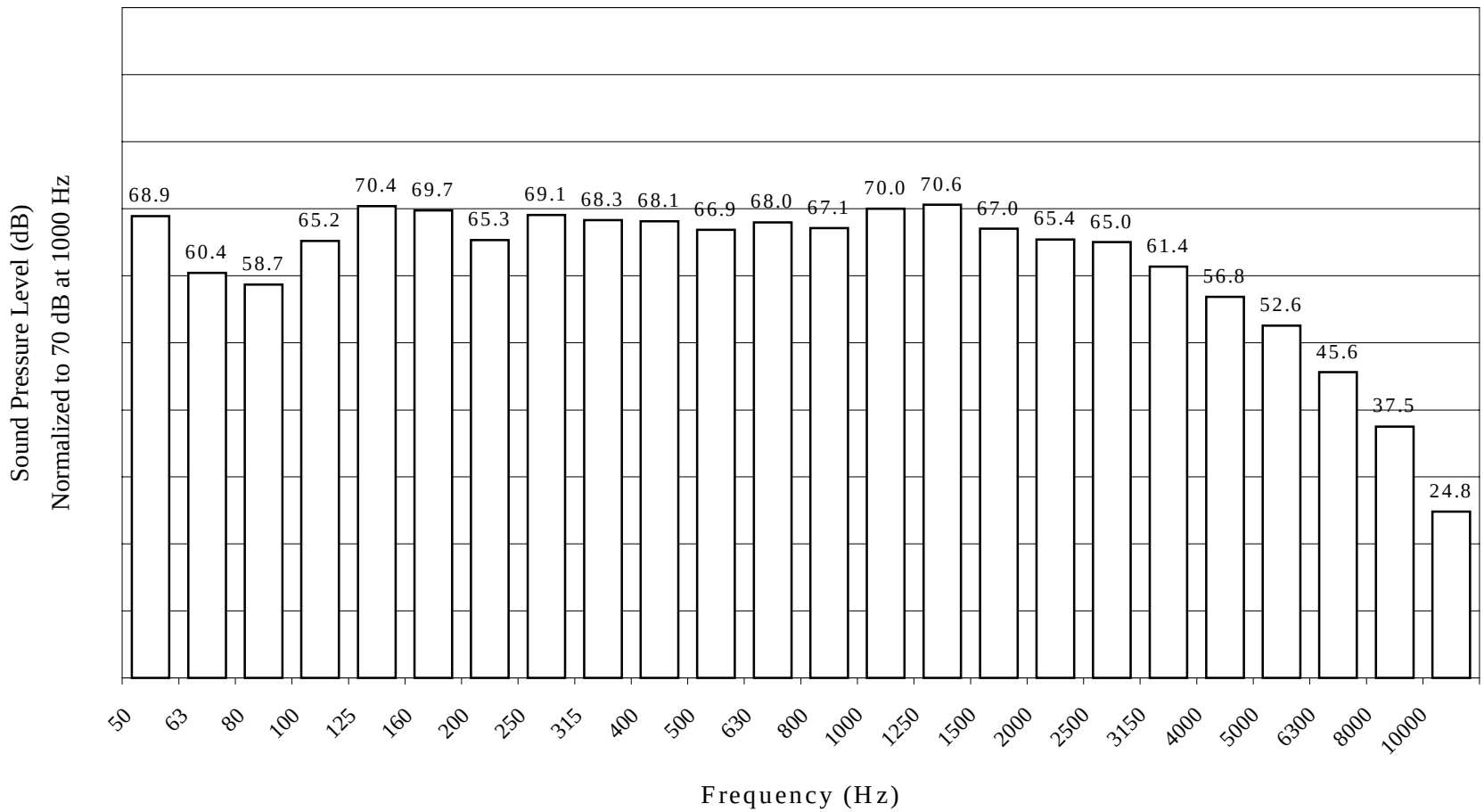

FIGURE 67. FLYOVER SPECTRAL CLASS 302

<u>INM Aircraft Descriptions:</u>	Helicopter
<u>INM Aircraft ID:</u>	S76
	SA341
	SA365

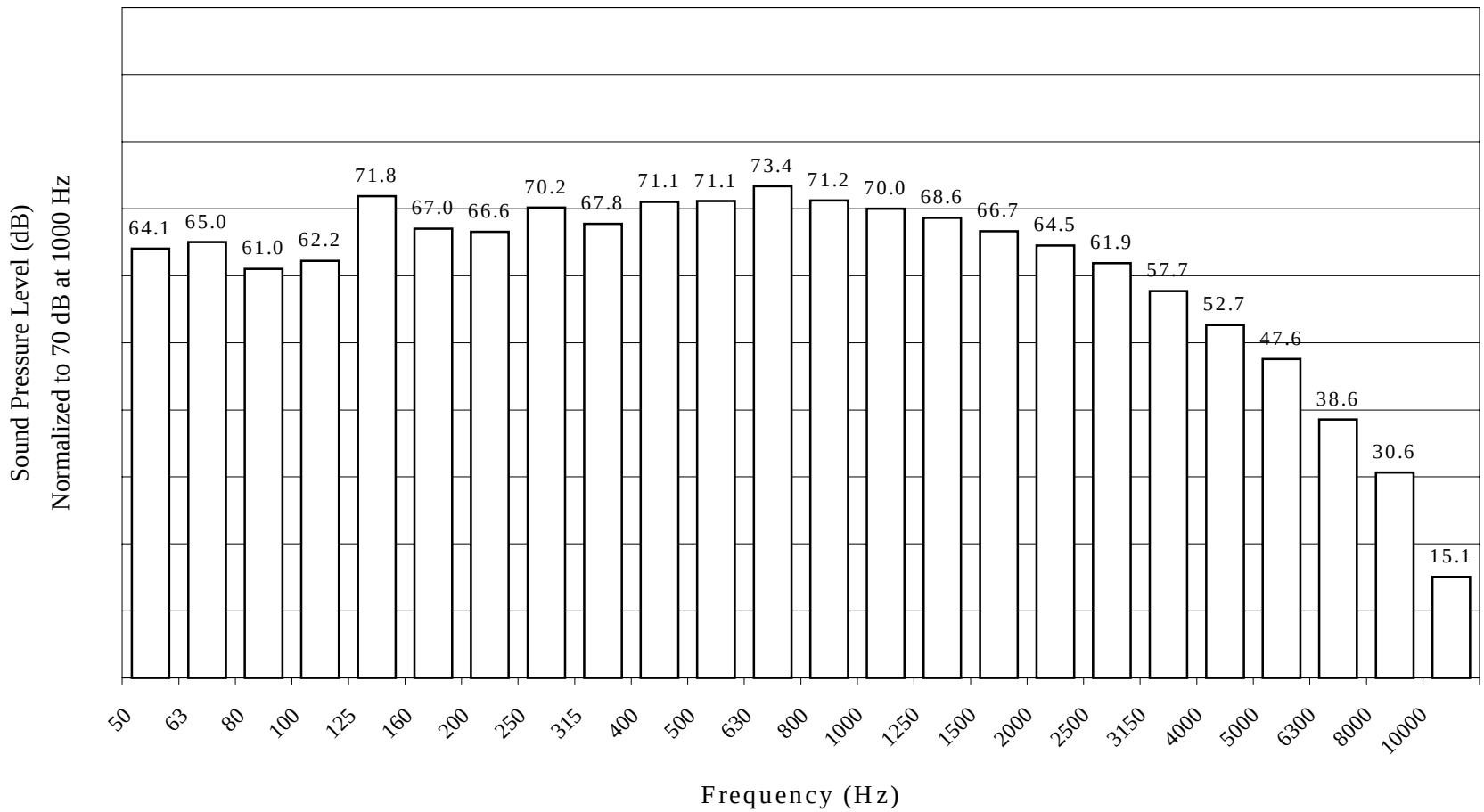

FIGURE 68. FLYOVER SPECTRAL CLASS 303

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	SA330
	S61

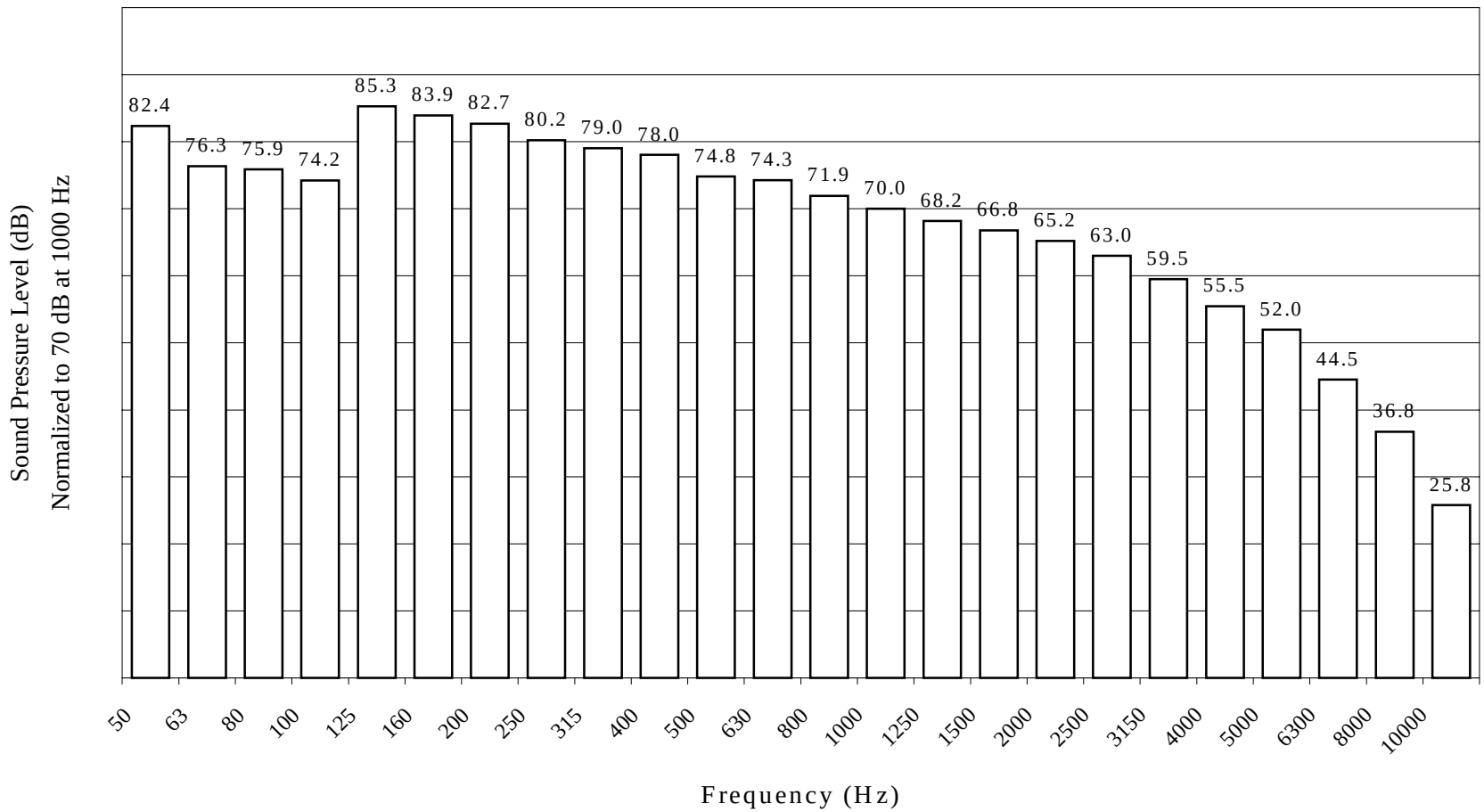

FIGURE 69. FLYOVER SPECTRAL CLASS 304

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	B222
	B212
	H500D

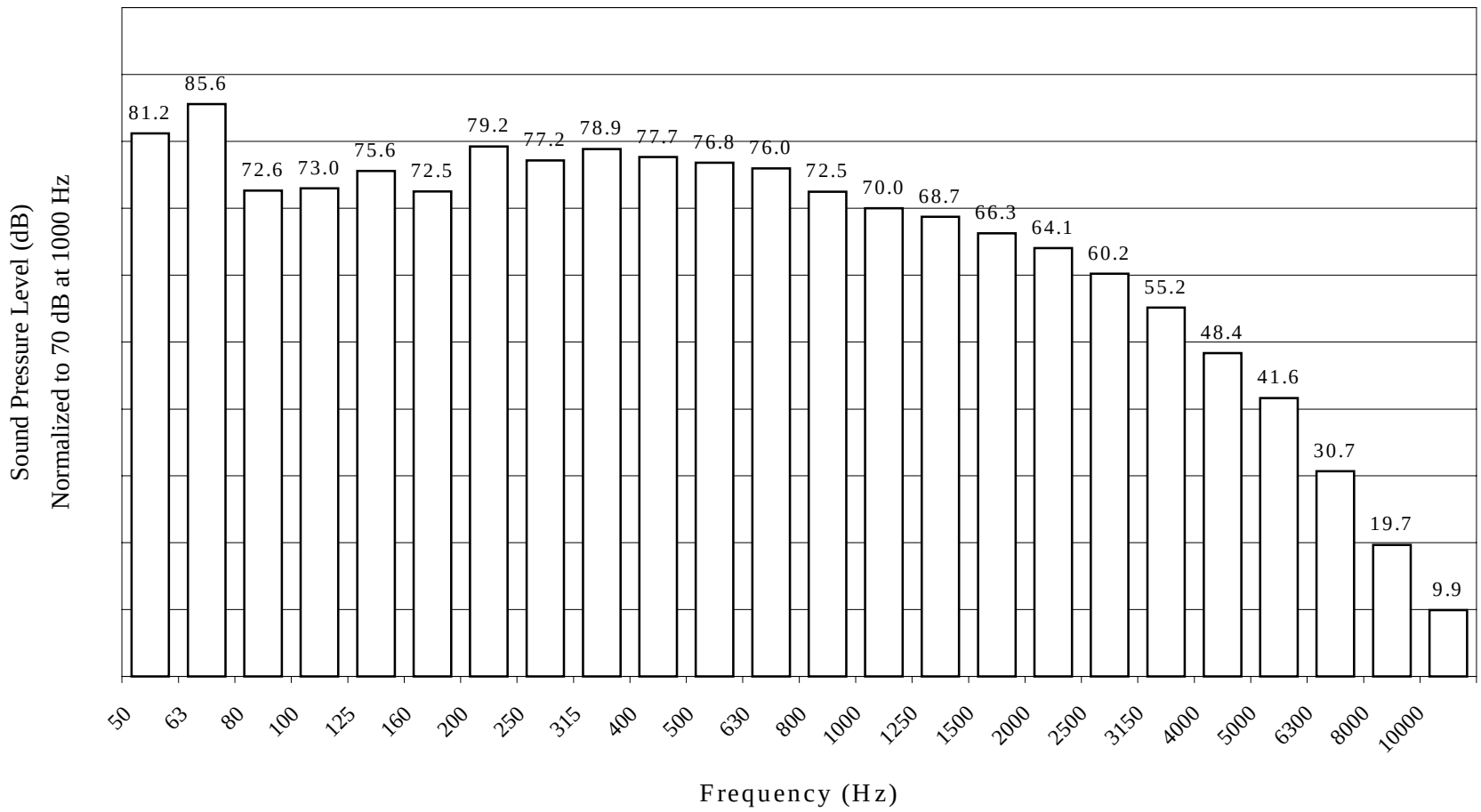

FIGURE 70. FLYOVER SPECTRAL CLASS 305

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	S65
	S70

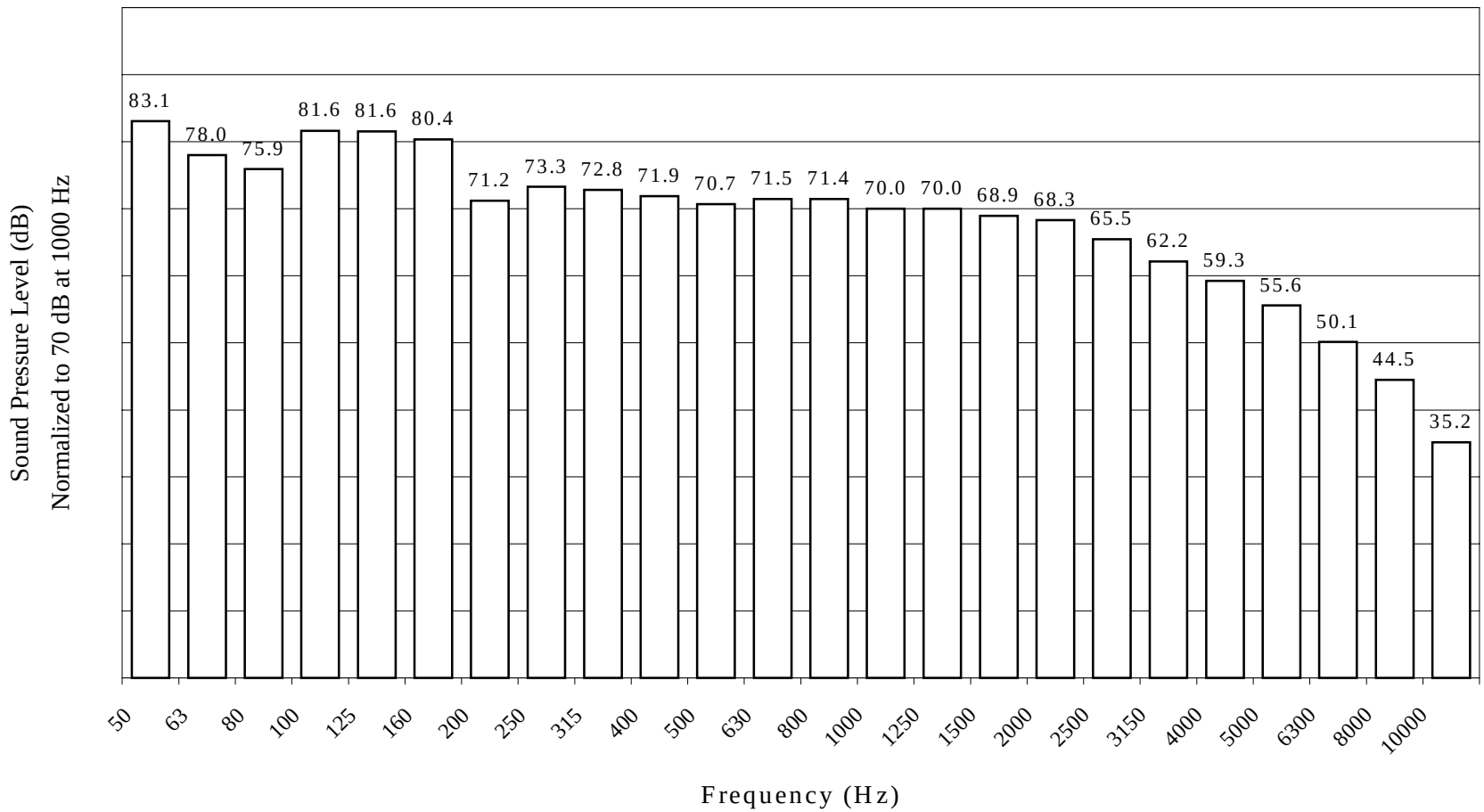

FIGURE 71. FLYOVER SPECTRAL CLASS 306

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	CH47D

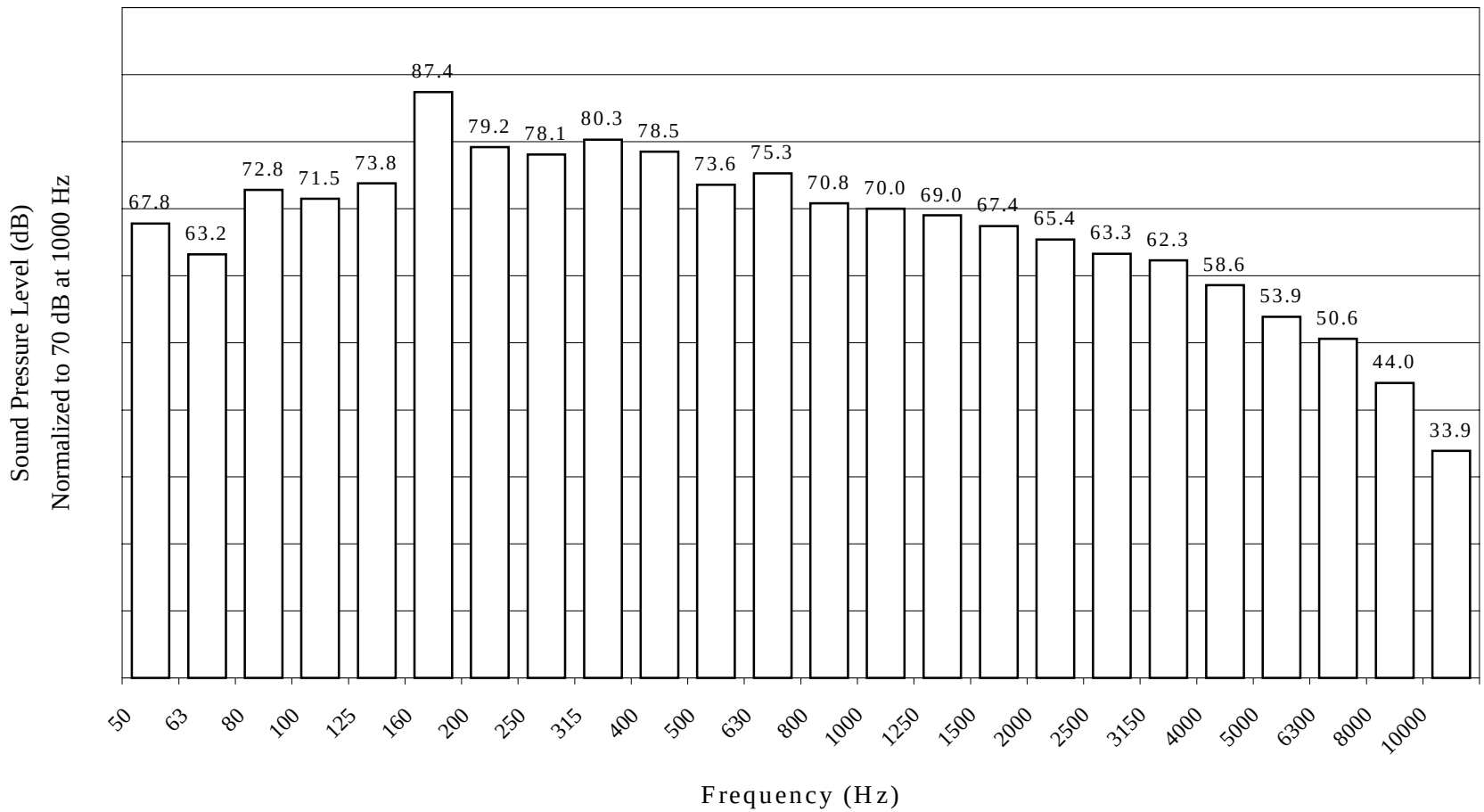

FIGURE 72. FLYOVER SPECTRAL CLASS 307

INM Aircraft Descriptions:	Helicopter
INM Aircraft ID:	B206L