Z_x

Table 3–2 (continued)
W Shapes
Selection by Z_x

F_y = 50 ksi

Shape	Z_x	M_{px}/Ω_b	$\phi_b M_{px}$	M_{rx}/Ω_b	$\phi_b M_{rx}$	BF		L_p	L_r	I_x	V_{nx}/Ω_v	$\phi_v V_{nx}$
		kip-ft	kip-ft	kip-ft	kip-ft	kips	kips				kips	kips
	in.^{3}		LRFD		LRFD		LRFD	ft	ft	in.^{4}		LRFD
W18×35	**66.5**		**249**		**151**		**12.1**	**4.31**	**12.4**	**510**		**159**
W12×45	64.2		241		151		5.75	6.89	22.4	348		121
W16×36	64.0		240		148		9.31	5.37	15.2	448		140
W14×38	61.5		231		143		8.10	5.47	16.2	385		131
W10×49	60.4		227		143		3.67	8.97	31.6	272		102
W8×58	59.8		224		137		2.56	7.42	41.7	228		134
W12×40	57.0		214		135		5.50	6.85	21.1	307		106
W10×45	54.9		206		129		3.89	7.10	26.9	248		106
W14×34	**54.6**		**205**		**128**		**7.59**	**5.40**	**15.6**	**340**		**120**
W16×31	**54.0**		**203**		**124**		**10.2**	**4.13**	**11.9**	**375**		**131**
W12×35	51.2		192		120		6.43	5.44	16.7	285		113
W8×48	49.0		184		113		2.53	7.35	35.2	184		102
W14×30	**47.3**		**177**		**110**		**6.99**	**5.26**	**14.9**	**291**		**112**
W10×39	46.8		176		111		3.77	6.99	24.2	209		93.7
W16×26[v]	**44.2**		**166**		**101**		**8.96**	**3.96**	**11.2**	**301**		**106**
W12×30	43.1		162		101		5.89	5.37	15.6	238		96.3
W14×26	**40.2**		**151**		**92.7**		**7.99**	**3.81**	**11.1**	**245**		**106**
W8×40	39.8		149		93.2		2.47	7.21	29.9	146		89.1
W10×33	38.8		146		91.9		3.59	6.85	21.8	171		84.7
W12×26	**37.2**		**140**		**87.7**		**5.42**	**5.33**	**14.9**	**204**		**84.3**
W10×30	36.6		137		85.0		4.62	4.84	16.1	170		94.2
W8×35	34.7		130		81.9		2.43	7.17	27.0	127		75.5
W14×22	**33.2**		**125**		**76.1**		**7.14**	**3.67**	**10.4**	**199**		**94.8**
W10×26	31.3		117		73.2		4.36	4.80	14.9	144		80.6
W8×31[f]	30.4		114		72.2		2.37	7.18	24.8	110		68.4
W12×22	**29.3**		**110**		**66.7**		**6.99**	**3.00**	**9.17**	**156**		**96.0**
W8×28	27.2		102		63.8		2.50	5.72	21.0	98.0		68.9
W10×22	**26.0**		**97.5**		**60.9**		**4.02**	**4.70**	**13.8**	**118**		**73.2**
W12×19	**24.7**		**92.6**		**55.9**		**6.43**	**2.90**	**8.62**	**130**		**85.7**
W8x24	23.1		86.6		54.9		2.39	5.69	19.0	82.7		58.3
W10×19	**21.6**		**81.0**		**49.3**		**4.77**	**3.09**	**9.72**	**96.3**		**76.8**
W8×21	20.4		76.5		47.8		2.79	4.45	14.8	75.3		62.1

	LRFD
Ω_b = 1.67	ϕ_b = 0.90
Ω_v = 1.50	ϕ_v = 1.00

[f] Shape exceeds compact limit for flexure with F_y = 50 ksi.
[v] Shape does not meet the h/t_w limit for shear in Specification Section G2.1a with F_y = 50 ksi, Ω_v = 1.67, ϕ_v = 0.90.

F_y = 50 ksi

Table 3–2 (continued)
W Shapes
Selection by Z_x

Z_x

Shape	Z_x	M_{px}/Ω_b	$\phi_b M_{px}$	M_{rx}/Ω_b	$\phi_b M_{rx}$	BF		L_p	L_r	I_x	V_{nx}/Ω_v	$\phi_v V_{nx}$
		kip-ft	kip-ft	kip-ft	kip-ft	kips	kips				kips	kips
	in.^{3}		LRFD		LRFD		LRFD	ft	ft	in.^{4}		LRFD
W12×16	**20.1**		**75.4**		**44.9**		**5.75**	**2.73**	**8.03**	**103**		**79.1**
W10×17	18.7		70.1		42.5		4.49	2.98	9.13	81.9		72.8
W12×14[v]	**17.4**		**65.2**		**39.1**		**5.15**	**2.66**	**7.74**	**88.6**		**64.3**
W8×18	17.0		63.8		39.9		2.61	4.34	13.50	61.9		56.2
W10×15	16.0		60.0		36.2		4.14	2.86	8.61	68.9		69.0
W8×15	13.6		51.0		31.0		2.88	3.09	10.00	48.0		59.6
W10×12[f]	**12.6**		**46.9**		**28.6**		**3.53**	**2.87**	**8.05**	**53.8**		**56.3**
W8×13	11.4		42.8		26.0		2.65	2.98	9.30	39.6		55.1
W8×10[f]	**8.9**		**32.9**		**20.5**		**2.28**	**3.14**	**8.56**	**30.8**		**40.2**

	LRFD
Ω_b = 1.67	ϕ_b = 0.90
Ω_v = 1.50	ϕ_v = 1.00

[f] Shape exceeds compact limit for flexure with F_y = 50 ksi.
[v] Shape does not meet the h/t_w limit for shear in Specification Section G2.1a with F_y = 50 ksi, Ω_v = 1.67, ϕ_v = 0.90.

Z_x

Table 3–2 (continued)
W Shapes
Selection by Z_x

$F_y = 50$ ksi

Shape	Z_x	M_{px}/Ω_b	$\phi_b M_{px}$	M_{rx}/Ω_b	$\phi_b M_{rx}$	BF		L_p	L_r	I_x	V_{nx}/Ω_v	$\phi_v V_{nx}$
		kip-ft	kip-ft	kip-ft	kip-ft	kips	kips				kips	kips
	in.^{3}		LRFD		LRFD		LRFD	ft	ft	in.^{4}		LRFD
W24×84	**224**		**840**		**515**		**24.3**	**6.89**	**20.3**	**2370**		**340**
W21×93	221		829		504		21.9	6.50	21.3	2070		376
W12×136	214		803		488		6.03	11.2	63.3	1240		318
W14×120	212		795		499		7.64	13.2	52.0	1380		256
W18×97	211		791		494		14.2	9.36	30.3	1750		298
W24×76	**200**		**750**		**462**		**22.5**	**6.78**	**19.6**	**2100**		**316**
W16×100	198		743		459		11.9	8.87	32.7	1490		298
W21×83	196		735		449		20.8	6.46	20.2	1830		331
W14×109	192		720		454		7.54	13.2	48.4	1240		226
W18×86	186		698		436		13.6	9.29	28.5	1070		265
W12×120	186		698		428		5.93	11.1	56.5	1530		279
W24×68	**177**		**664**		**404**		**21.2**	**6.61**	**18.8**	**1830**		**295**
W16×89	175		656		407		11.6	8.80	30.2	1300		264
W14×99[f]	173		646		412		7.35	13.5	45.3	1110		206
W21×73	172		645		396		19.4	6.39	19.2	1600		290
W12×106	164		615		381		5.90	11.0	50.7	933		236
W18×76	163		611		383		12.8	9.22	27.1	1330		232
W21×68	**160**		**600**		**368**		**18.8**	**6.36**	**18.7**	**1480**		**273**
W14×90[f]	157		573		375		7.22	15.2	42.6	999		185
W24x62	**153**		**574**		**344**		**24.1**	**4.87**	**14.4**	**1550**		**306**
W16×77	150		563		352		11.0	8.72	27.8	1110		225
W12×96	147		551		344		5.81	10.9	46.6	833		210
W10×112	147		551		331		4.02	9.47	64.3	716		257
W18×71	146		548		333		15.7	6.00	19.6	1170		274
W21×62	**144**		**540**		**333**		**17.4**	**6.25**	**18.1**	**1330**		**252**
W14×82	139		521		323		8.16	8.76	33.1	881		219
W24×55[v]	**134**		**503**		**299**		**22.2**	**4.73**	**13.9**	**1350**		**251**
W18×65	133		499		307		14.9	5.97	18.8	1070		248
W12×87	132		495		310		5.76	10.8	43.0	740		194
W16×67	130		488		307		10.4	8.69	26.1	954		194
W10×100	130		488		294		4.01	9.36	57.7	623		226
W21×57	129		484		291		20.1	4.77	14.3	1170		256

	LRFD
$\Omega_b = 1.67$ $\Omega_v = 1.50$	$\phi_b = 0.90$ $\phi_v = 1.00$

[f] Shape exceeds compact limit for flexure with $F_y = 50$ ksi.
[v] Shape does not meet the h/t_w limit for shear in Specification Section G2.1a with $F_y = 50$ ksi, $\Omega_v = 1.67$, $\phi_v = 0.90$.

$F_y = 50$ ksi

Table 3–2 (continued)
W Shapes
Selection by Z_x

Z_x

Shape	Z_x	M_{px}/Ω_b	$\phi_b M_{px}$	M_{rx}/Ω_b	$\phi_b M_{rx}$	BF		L_p	L_r	I_x	V_{nx}/Ω_v	$\phi_v V_{nx}$
		kip-ft	kip-ft	kip-ft	kip-ft	kips	kips				kips	kips
	in.^{3}		LRFD		LRFD		LRFD	ft	ft	in.^{4}		LRFD
W21×55	**126**		**473**		**289**		**16.3**	**6.11**	**17.4**	**1140**		**234**
W14×74	126		473		294		8.03	8.76	31.0	795		191
W18×60	123		461		284		14.5	5.93	18.2	984		227
W12×79	119		446		281		5.67	10.8	39.9	662		175
W14×68	115		431		270		7.81	8.69	29.3	722		175
W10×88	113		424		259		3.95	9.29	51.1	534		197
W18×55	**112**		**420**		**258**		**13.9**	**5.90**	**17.5**	**890**		**212**
W21×50	**110**		**413**		**248**		**18.3**	**4.59**	**13.6**	**984**		**237**
W12×72	108		405		256		5.59	10.7	37.4	597		158
W21×48[f]	**107**		**398**		**244**		**14.7**	**6.09**	**16.6**	**959**		**217**
W16×57	105		394		242		12.0	5.65	18.3	758		212
W14×61	102		383		242		7.46	8.65	27.5	640		156
W18×50	101		379		233		13.1	5.83	17.0	800		192
W10×77	97.6		366		225		3.90	9.18	45.2	455		169
W12×65[f]	96.8		356		231		5.41	11.9	35.1	533		142
W21×44	**95.4**		**358**		**214**		**16.8**	**4.45**	**13.0**	**843**		**217**
W16×50	92.0		345		213		11.4	5.62	17.2	659		185
W18×46	90.7		340		207		14.6	4.56	13.7	712		195
W14×53	87.1		327		204		7.93	6.78	22.2	541		155
W12×58	86.4		324		205		5.66	8.87	29.9	475		132
W10×68	85.3		320		199		3.86	9.15	40.6	394		147
W16×45	82.3		309		191		10.8	5.55	16.5	586		167
W18×40	**78.4**		**294**		**180**		**13.3**	**4.49**	**13.1**	**612**		**169**
W14×48	78.4		294		184		7.66	6.75	21.1	484		141
W12×53	77.9		292		185		5.48	8.76	28.2	425		125
W10×60	74.6		280		175		3.80	9.08	36.6	341		129
W16×40	**73.0**		**274**		**170**		**10.1**	**5.55**	**15.9**	**518**		**146**
W12×50	71.9		270		169		5.97	6.92	23.9	391		135
W8×67	70.1		263		159		2.60	7.49	47.7	272		154
W14×43	69.6		261		164		7.24	6.68	20.0	428		125
W10×54	66.6		250		158		3.74	9.04	33.7	303		112

	LRFD
$\Omega_b = 1.67$ $\Omega_v = 1.50$	$\phi_b = 0.90$ $\phi_v = 1.00$

[f] Shape exceeds compact limit for flexure with $F_y = 50$ ksi.

I_x

Table 3–3
W Shapes
Selection by I_x

Shape	I_x in.^{4}	Shape	I_x in.^{4}	Shape	I_x in.^{4}	Shape	I_x in.^{4}
W36×800[h]	**64700**	**W44×230**	**20800**	**W40×167**	**11600**	**W33×118**	**5900**
		W30×391[h]	20700	W33×201	11600	W30×132	5770
W36×652[h]	**50600**	W40×278	20500	W36×182	11300	W24×176	5680
		W40×249	19600	W27×258	10800	W27×146	5660
W40×593[h]	**50400**	W36×282	19600	W14×605[h]	10800	W18×258[h]	5510
		W33×318	19500	W24×306[h]	10700	W14×370[h]	5440
W40×503[h]	**41600**	W40×264	19400	W36×170	10500	W30×124	5360
W36×529[h]	39600	W30×357[h]	18700	W30×211	10300	W21×201	5310
		W36×262	17900			W24×162	5170
W36×487[h]	**36000**	W33×291	17700	**W40×149**	**9800**		
		W40×235	17400	W36×160	9760	**W30×116**	**4930**
W40×431[h]	**34800**	W36×256	16800	W27×235	9700	W18×234[h]	4900
W36×441[h]	32100	W30×326[h]	16800	W24×279[h]	9600	W14×342[h]	4900
				W14×550[h]	9430	W27×129	4760
W40×397[h]	**32000**	**W40×215**	**16700**	W33×169	9290	W21×182	4730
		W36×247	16700	W30×191	9200	W24×146	4580
W44×335	**31100**	W27×368[h]	16200	W36×150	9040		
W40×392[h]	29900	W33×263	15900	W27×217	8910	**W30×108**	**4470**
W40×372[h]	29600	W36×231	15600	W24×250	8490	W18×211	4330
W40×362[h]	28900			W30×173	8230	W14×311[h]	4330
W36×395[h]	28500	**W40×211**	**15500**	W14×500[h]	8210	W21×166	4280
		W36×232	15000	W33×152	8160	W27×114	4080
W44×290	**27000**			W27×194	7860	W12×336[h]	4060
W36×361[h]	25700	**W40×199**	**14900**			W24×131	4020
W40×324	25600	W30×292	14900	**W36×135**	**7800**		
W27×539[h]	25600	W27×336[h]	14600	W24×229	7650	**W30×99**	**3990**
W40×331[h]	24700	W14×730[h]	14300	W33×141	7450	W18×192	3870
W40×327[h]	24500	W33×241	14200	W14×455[h]	7190	W14×283[h]	3840
W33×387[h]	24300	W24×370[h]	13400	W27×178	7020	W21×147	3630
				W18×311[h]	6970	W27×102	3620
W44×262	**24100**	**W40×183**	**13200**	W24×207	6820		
W36×330	23300	W36×210	13200				
W40×297	23200	W30×261	13100	**W33×130**	**6710**		
W33×354[h]	22000	W27×307[h]	13100	W30×148	6680		
W40×277	21900	W33×221	12900	W14×426[h]	6600		
W40×294	21900	W14×665[h]	12400	W27×161	6310		
W36×302	21100	W36×194	12100	W24×192	6260		
		W27×281	11900	W18×283[h]	6170		
		W24×335[h]	11900	W14×398[h]	6000		
		W30×235	11700				

[h] Flange thickness greater than 2 in. Special requirements may apply per AISC Specification Section A3.1c.

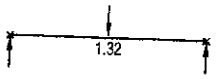
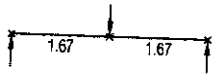
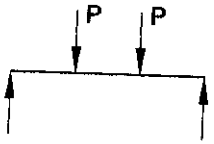
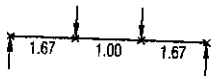
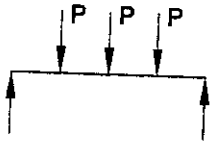
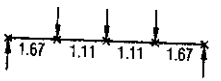
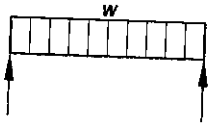
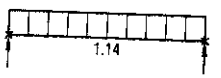
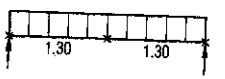
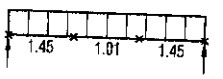
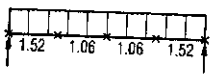
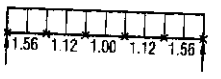
Table 3–3 (continued)
W Shapes
Selection by I_x

I_x

Shape	I_x in.^{4}	Shape	I_x in.^{4}	Shape	I_x in.^{4}	Shape	I_x in.^{4}
W30×90	**3610**	**W24×68**	**1830**	**W21×44**	**843**	**W16×26**	**301**
W12×305[h]	3550	W21×83	1830	W12×96	833	W14×30	291
W24×117	3540	W18×97	1750	W18×50	800	W12×35	285
W18×175	3450	W14×145	1710	W14×74	795	W10×49	272
W14×257	3400	W12×170	1650	W16×57	758	W8×67	272
W27×94	3270	W21×73	1600	W12×87	740	W10×45	248
W21×132	3220			W14×68	722		
W12×279[h]	3110	**W24×62**	**1550**	W10×112	716	**W14×26**	**245**
W24×104	3100	W18×86	1530	W18×46	712	W12×30	238
W18×158	3060	W14×132	1530	W12×79	662	W8×58	228
W14×233	3010	W16×100	1490	W16×50	659	W10×39	209
W24×103	3000	W21×68	1480	W14×61	640		
W21×122	2960	W12×152	1430	W10×100	623	**W12×26**	**204**
		W14×120	1380				
W27×84	**2850**			**W18×40**	**612**	**W14×22**	**199**
W18×143	2750	**W24×55**	**1350**	W12×72	597	W8×48	184
W12×252[h]	2720	W21×62	1330	W16×45	586	W10×33	171
W24×94	2700	W18×76	1330	W14×53	541	W10×30	170
W21×111	2670	W16×89	1300	W10×88	534		
W14×211	2660	W14×109	1240	W12×65	533	**W12×22**	**156**
W18×130	2460	W12×136	1240			W8×40	146
W21×101	2420	W21×57	1170	**W16×40**	**518**	W10×26	144
W12×230[h]	2420	W18×71	1170				
W14×193	2400			**W18×35**	**510**	**W12×19**	**130**
		W21×55	**1140**	W14×48	484	W8×35	127
W24×84	**2370**	W16×77	1110	W12×58	475	W10×22	118
W18×119	2190	W14×99	1110	W10×77	455	W8×31	110
W14×176	2140	W18×65	1070	W16×36	448		
W12×210	2140	W12×120	1070	W14×43	428	**W12×16**	**103**
		W14×90	999	W12×53	425	W8×28	98.0
W24×76	**2100**			W10×68	394	W10×19	96.3
W21×93	2070	**W21×50**	**984**	W12×50	391		
W18×106	1910	W18×60	984	W14×38	385	**W12×14**	**88.6**
W14×159	1900					W8×24	82.7
W12×190	1890	**W21×48**	**959**	**W16×31**	**375**	W10×17	81.9
		W16×67	954	W12×45	348	W8×21	75.3
		W12×106	933	W10×60	341	W10×15	68.9
		W18×55	890	W14×34	340	W8×18	61.9
		W14×82	881	W12×40	307		
				W10×54	303	**W10×12**	**53.8**
						W8×15	48.0
						W8×13	39.6
						W8×10	**30.8**

[h] Flange thickness greater than 2 in. Special requirements may apply per AISC Specification Section A3.1c.

Table 3–1
Values for C_b for Simply Supported Beams

Load	Lateral Bracing Along Span	C_b
	None Load at midpoint	
	At load point	
	None Loads at third points	
	At load points Loads symmetrically placed	
	None Loads at quarter points	
	At load points Loads at quarter points	
	None	
	At midpoint	
	At third points	
	At quarter points	
	At fifth points	

Note: Lateral bracing must always be provided at points of support per AISC Specification Chapter F.

Table 3–2
W Shapes
Selection by Z_x

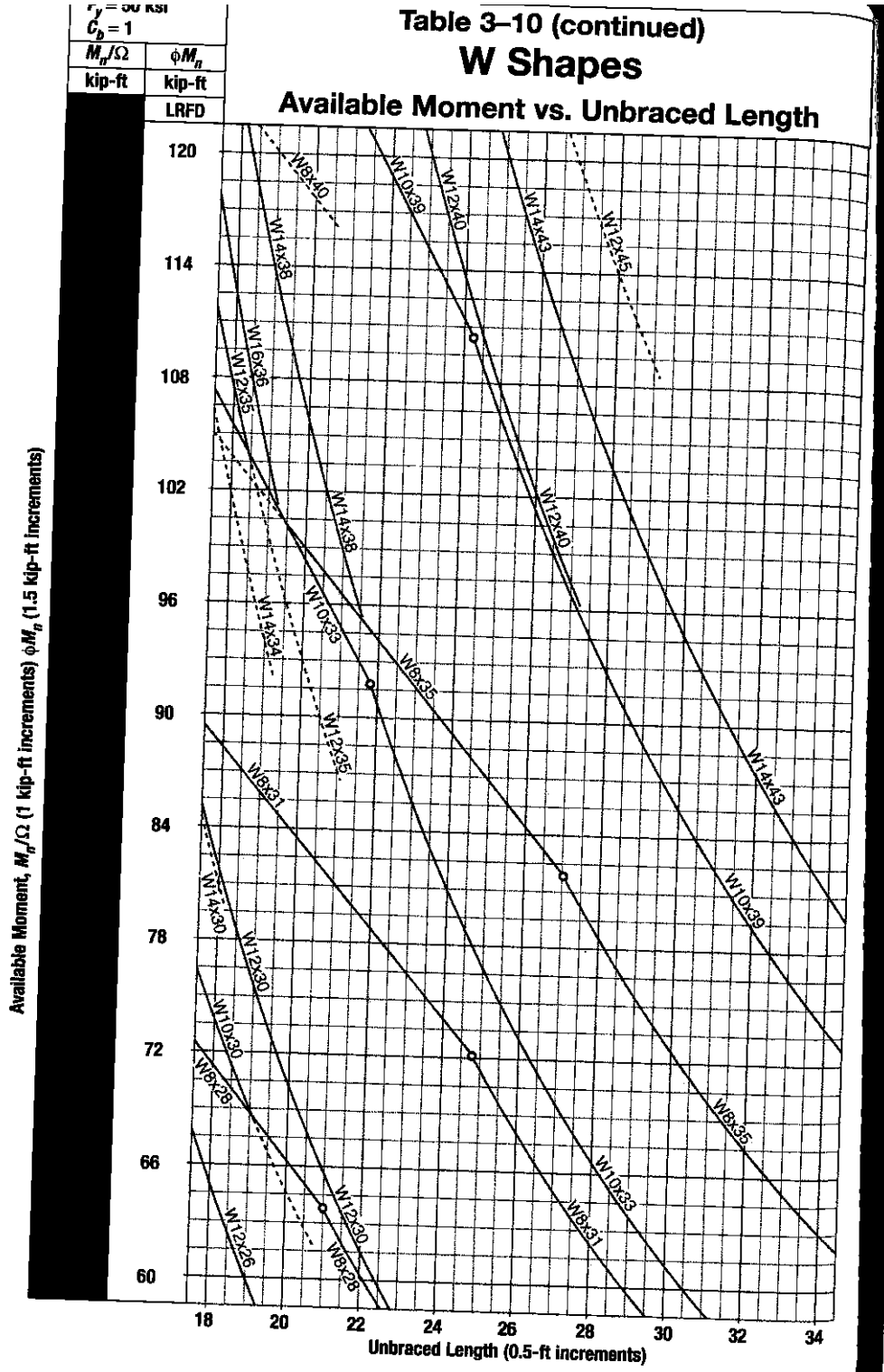
F_y = 50 ksi

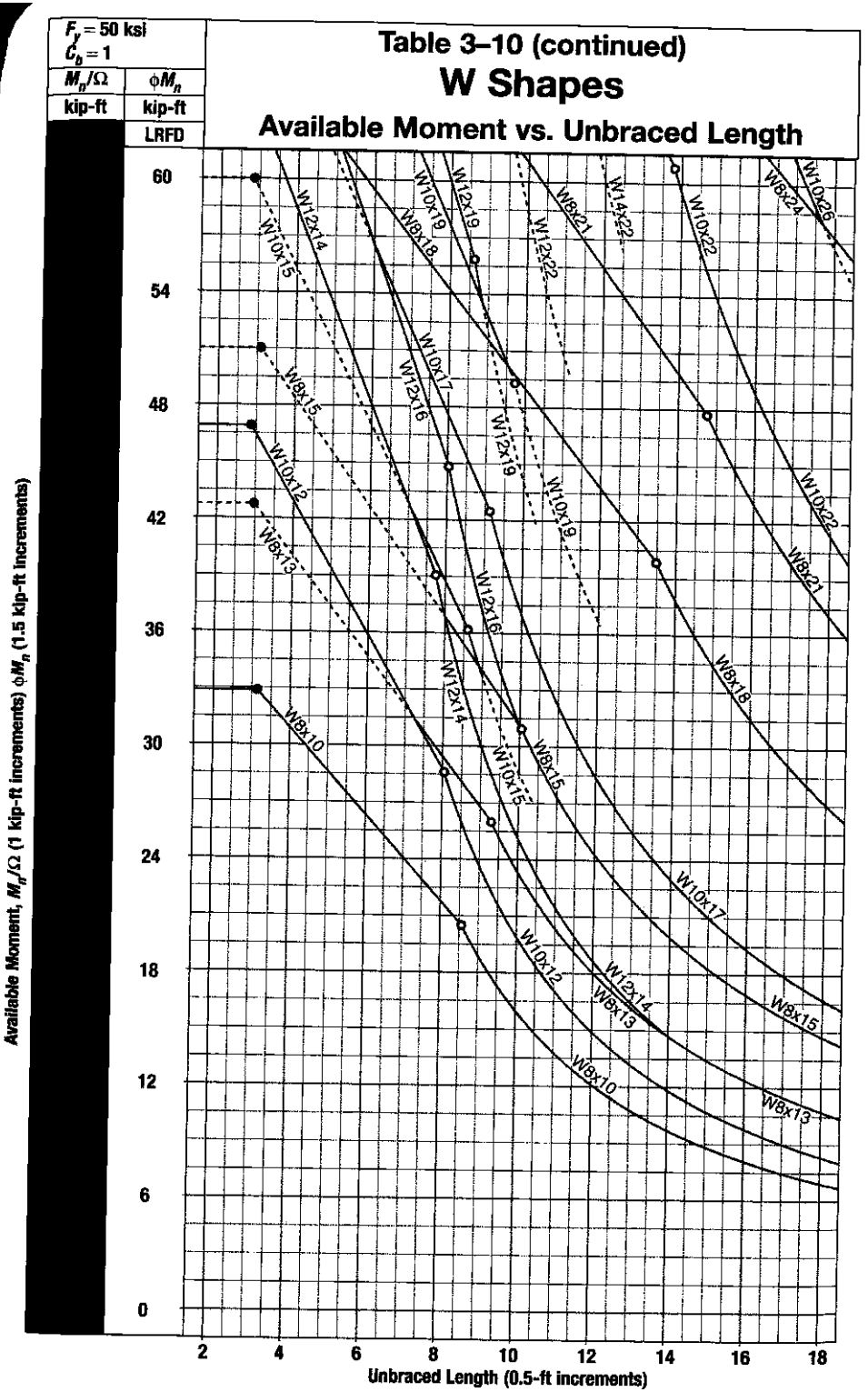
Z_x

Shape	Z_x	M_{px}/Ω_b	$\phi_b M_{px}$	M_{rx}/Ω_b	$\phi_b M_{rx}$	BF		L_p	L_r	I_x	V_{nx}/Ω_v	$\phi_v V$
		kip-ft	kip-ft	kip-ft	kip-ft	kips	kips				kips	kip
	in.^{3}		LRFD		LRFD		LRFD	ft	ft	in.^{4}		LRF
W36×800[h]	3650		13700		7980		71.4	14.9	94.8	64700		304
W36×652[h]	2910		10900		6460		70.4	14.5	77.8	50600		243
W40×593[h]	2760		10400		6140		83.5	13.4	63.8	50400		231
W36×529[h]	2330		8740		5220		70.0	14.1	64.4	39600		192
W40×503[h]	2310		8660		5200		82.2	13.1	55.3	41600		194
W36×487[h]	2130		7990		4800		69.3	14.0	60.0	36000		177
W40×431[h]	1960		7350		4440		80.6	12.9	49.0	34800		166
W36×441[h]	1910		7160		4330		68.0	13.8	55.5	32100		159
W27×539[h]	1890		7090		4120		39.2	12.9	88.6	25600		192
W40×397[h]	1800		6750		4100		78.7	12.9	46.6	32000		150
W40×392[h]	1710		6410		3780		90.8	9.33	38.3	29900		176
W36×395[h]	1710		6410		3910		67.1	13.7	51.0	28500		141
W40×372[h]	1680		6300		3830		77.6	12.7	44.5	29600		141
W14×730[h]	1660		6230		3360		11.1	16.6	275	14300		206
W40×362[h]	1640		6150		3730		77.4	12.7	44.0	28900		136
W44×335	1620		6080		3700		89.6	12.3	38.8	31100		135
W33×387[h]	1560		5850		3540		57.7	13.3	53.3	24300		136
W36×361[h]	1550		5810		3540		65.7	13.6	48.1	25700		128
W14×665[h]	1480		5550		3020		10.7	16.3	253	12400		184
W40×324	1460		5480		3360		73.8	12.6	41.3	25600		120
W30×391[h]	1450		5440		3280		47.1	13.0	58.8	20700		135
W40×331[h]	1430		5360		3180		88.7	9.08	33.7	24700		149
W33×354[h]	1420		5330		3260		56.4	13.2	49.9	22000		124
W44×290	1410		5290		3260		82.5	12.3	37.0	27000		113
W40×327[h]	1410		5290		3150		87.2	9.11	33.6	24500		144
W36×330	1410		5290		3260		63.6	13.5	45.5	23300		115
W40×297	1330		4990		3070		71.1	12.5	39.4	23200		111
W30×357[h]	1320		4950		2990		47.0	12.9	54.5	18700		122
W14×605[h]	1320		4950		2730		10.3	16.1	232	10800		163
W36×302	1280		4800		2970		60.9	13.5	43.6	21100		106

	LRFD
Ω_b = 1.67 Ω_v = 1.50	ϕ_b = 0.90 ϕ_v = 1.00

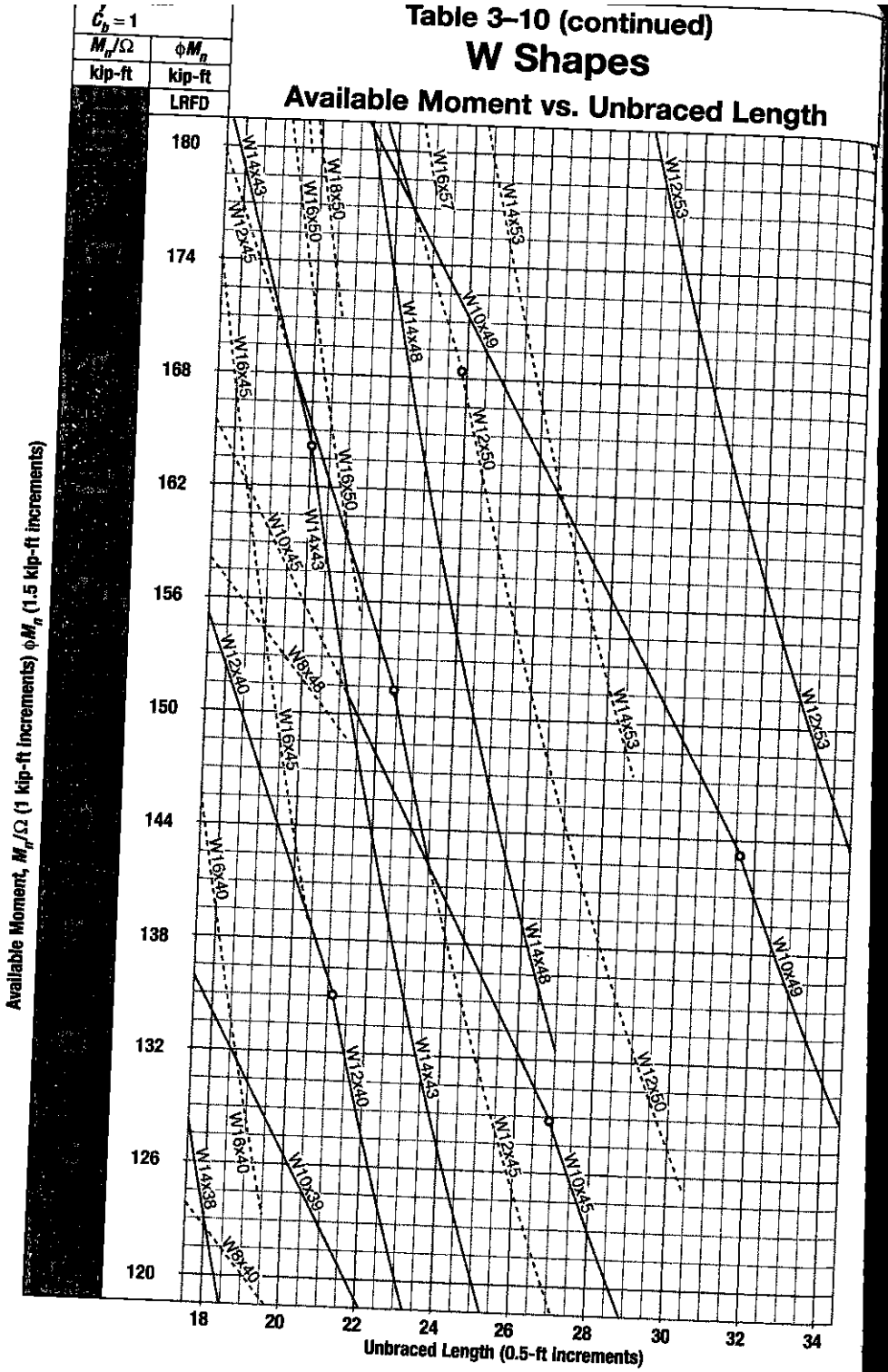
[h] Flange thickness greater than 2 in. Special requirements may apply per AISC Specification Section A3.1c.


F_y = 50 ksi
C_b = 1
M_n/Ω kip-ft
ϕM_n kip-ft
LRFD
Table 3–10 (continued)
W Shapes
Available Moment vs. Unbraced Length
Available Moment, M_n/Ω (1 kip-ft increments) ϕM_n (1.5 kip-ft increments)
Unbraced Length (0.5-ft increments)
120
114
108
102
96
90
84
78
72
66
60
18
20
22
24
26
28
30
32
34
W8x40
W14x38
W16x36
W12x35
W14x34
W12x35
W8x31
W14x30
W12x30
W10x30
W8x28
W12x26
W10x39
W12x40
W14x43
W12x45
W14x38
W12x40
W10x33
W8x35
W14x43
W12x35
W10x39
W8x35
W10x33
W8x31
W12x30
W8x28


F_y = 50 ksi
C_b = 1
M_n/Ω kip-ft
ϕM_n kip-ft
LRFD
Table 3–10 (continued)
W Shapes
Available Moment vs. Unbraced Length
Available Moment, M_n/Ω (1 kip-ft increments) ϕM_n (1.5 kip-ft increments)
Unbraced Length (0.5-ft increments)
60
54
48
42
36
30
24
18
12
6
0
2
4
6
8
10
12
14
16
18
W10x15
W12x14
W10x19
W8x18
W12x19
W12x22
W8x21
W14x22
W10x26
W8x24
W10x17
W8x15
W12x16
W10x22
W10x12
W8x13
W12x14
W8x21
W8x10
W8x19
W10x15
W8x15
W10x17
W10x12
W12x14
W8x13
W8x10
W8x15
W8x13

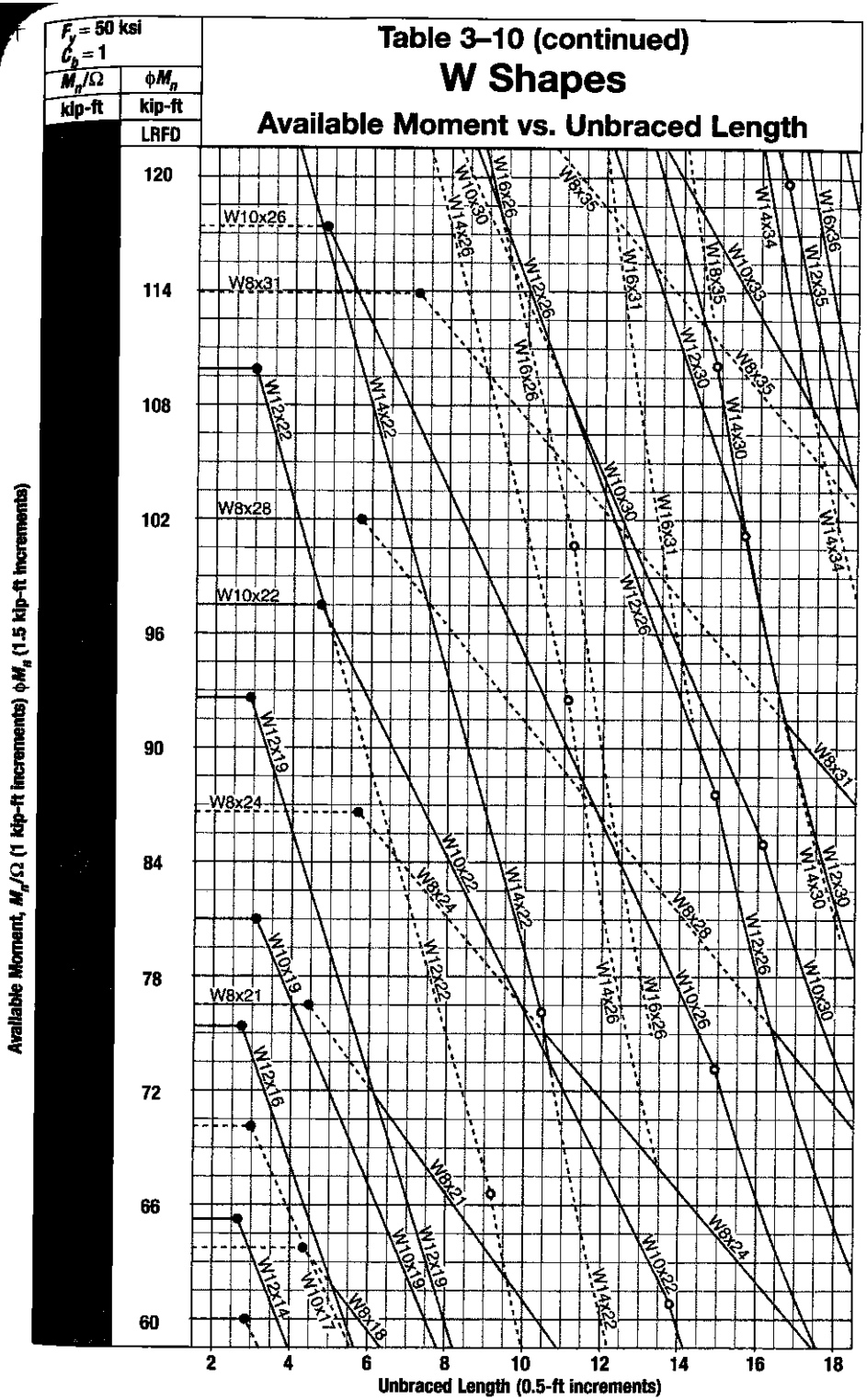
W Shapes

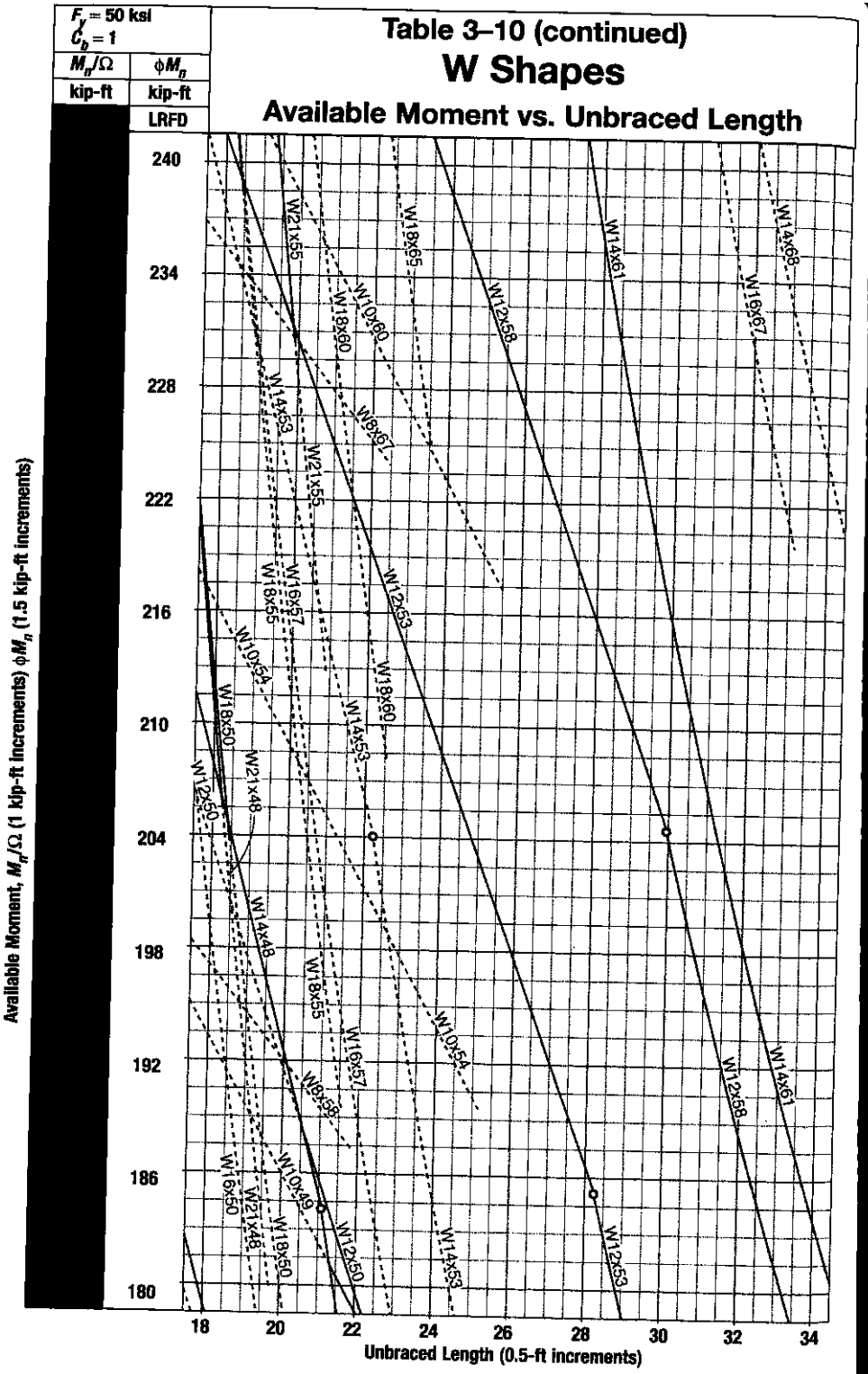
Available Moment vs. Unbraced Length



W Shapes

Available Moment vs. Unbraced Length




F_y = 50 ksi
C_b = 1
M_n/Ω
kip-ft
ϕM_n
kip-ft
LRFD
Table 3–10 (continued)
W Shapes
Available Moment vs. Unbraced Length
Available Moment, M_n/Ω (1 kip-ft increments) ϕM_n (1.5 kip-ft increments)
240
234
228
222
216
210
204
198
192
186
180
18
20
22
24
26
28
30
32
34
Unbraced Length (0.5-ft increments)
W21x55
W18x65
W14x68
W14x61
W18x67
W12x58
W18x60
W14x53
W21x55
W18x55
W16x57
W12x53
W18x60
W14x53
W18x50
W21x48
W12x50
W14x48
W18x55
W16x57
W10x54
W12x58
W14x61
W12x53
W16x50
W21x48
W18x50
W12x50
W14x53

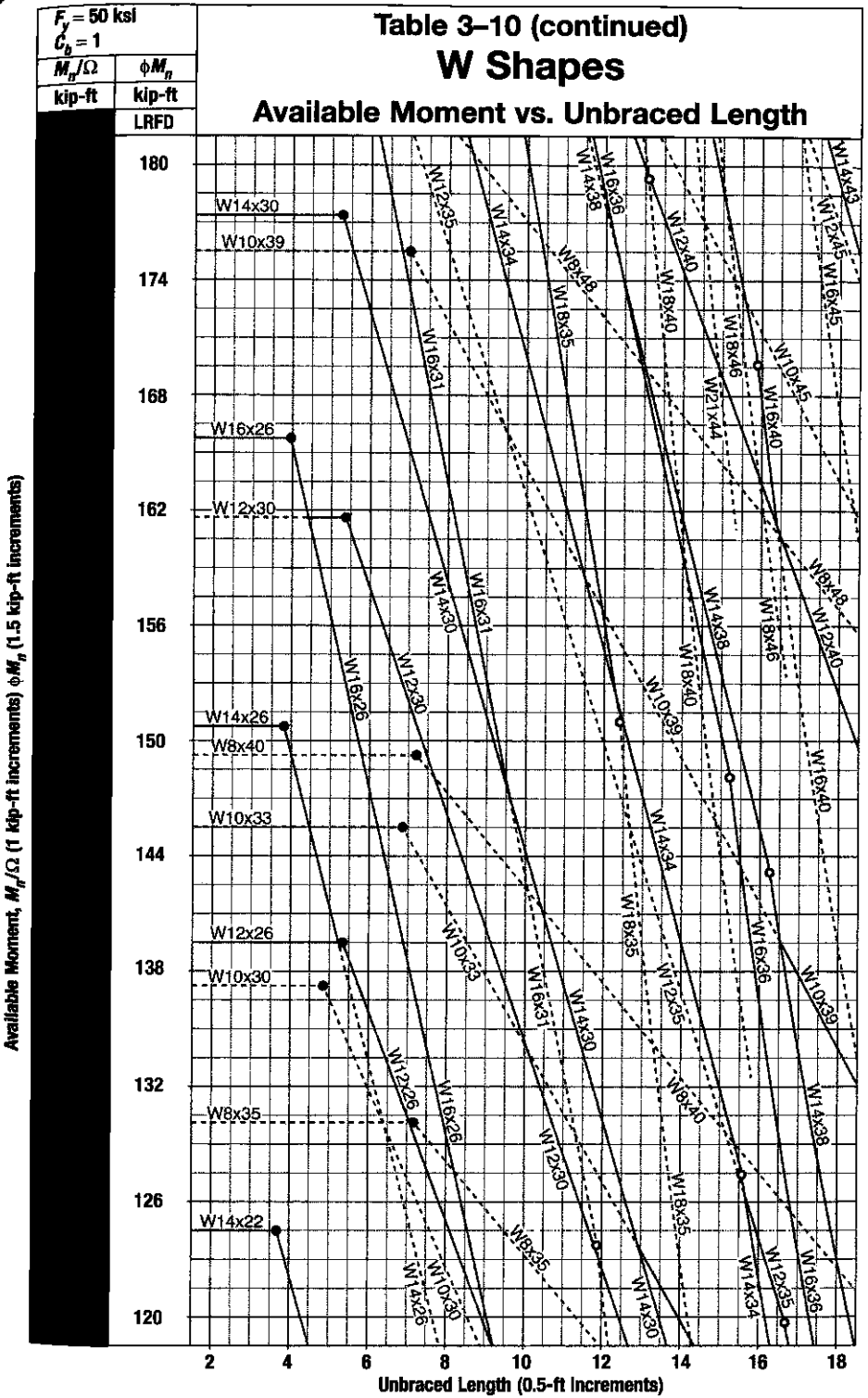

F_y = 50 ksi
C_b = 1
M_n/Ω
kip-ft
ϕM_n
kip-ft
LRFD
Table 3–10 (continued)
W Shapes
Available Moment vs. Unbraced Length
Available Moment, M_n/Ω (1 kip-ft increments) ϕM_n (1.5 kip-ft increments)
180
174
168
162
156
150
144
138
132
126
120
2
4
6
8
10
12
14
16
18
Unbraced Length (0.5-ft Increments)
W14x30
W10x39
W16x26
W12x30
W14x26
W8x40
W10x33
W12x26
W10x30
W8x35
W14x22
W14x43
W12x45
W16x45
W10x45
W16x40
W18x46
W21x44
W8x48
W12x40
W14x38
W18x40
W10x39
W16x40
W14x34
W18x35
W12x35
W16x36
W10x39
W14x38
W8x40
W16x31
W14x30
W16x26
W12x30
W10x33
W16x36
W14x34
W18x35
W12x35
W16x31
W14x30
W12x26
W10x30
W16x26
W12x30
W14x26
W8x35
W14x22

Table 3–10 (continued)

W Shapes

Available Moment vs. Unbraced Length

$F_y = 50$ ksi
$C_b = 1$

M_n/Ω	ϕM_n
kip-ft	kip-ft
	LRFD

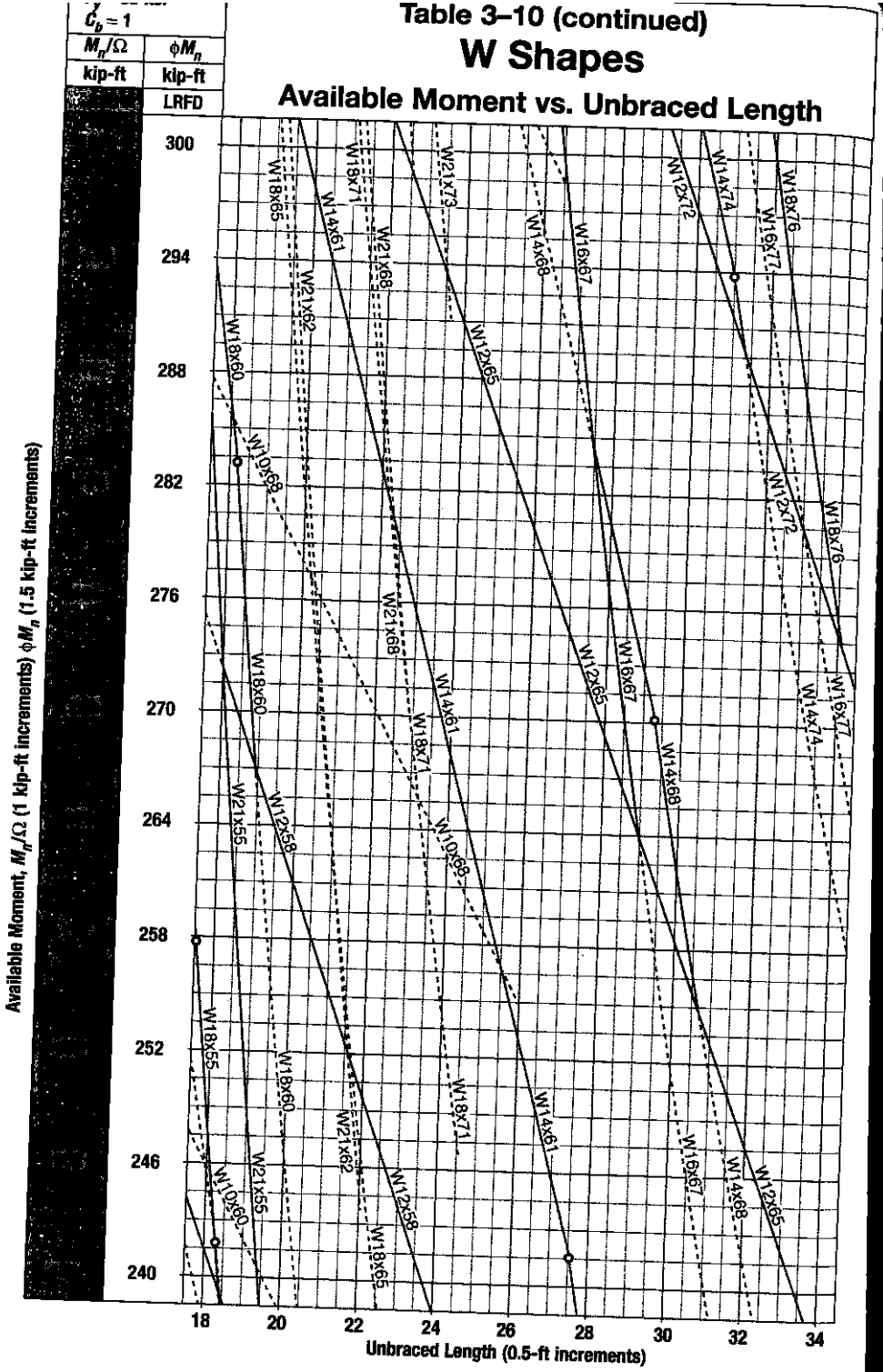


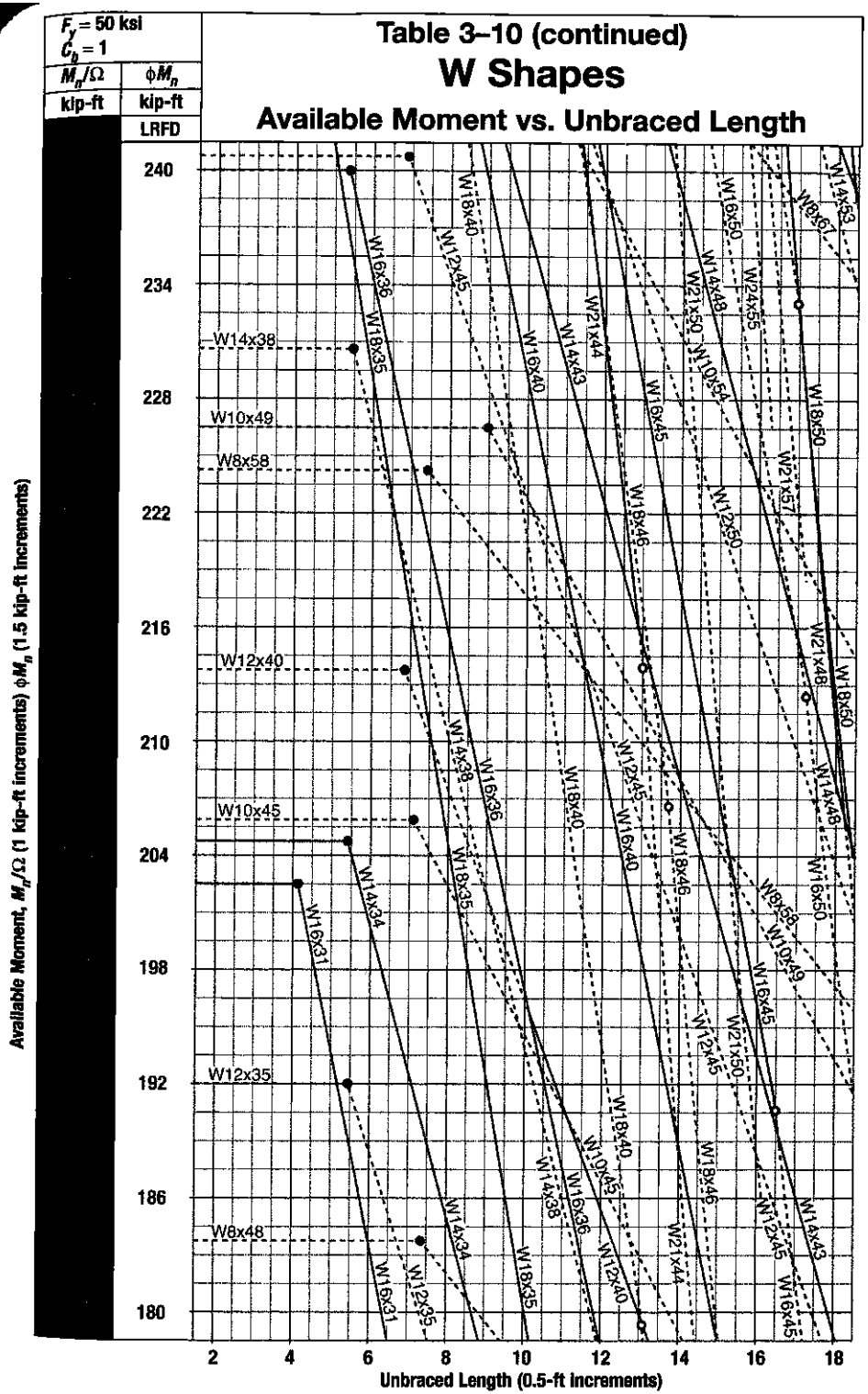
Table 3–10 (continued)

W Shapes

Available Moment vs. Unbraced Length

$F_y = 50$ ksi
$C_b = 1$

M_n/Ω	ϕM_n
kip-ft	kip-ft
	LRFD



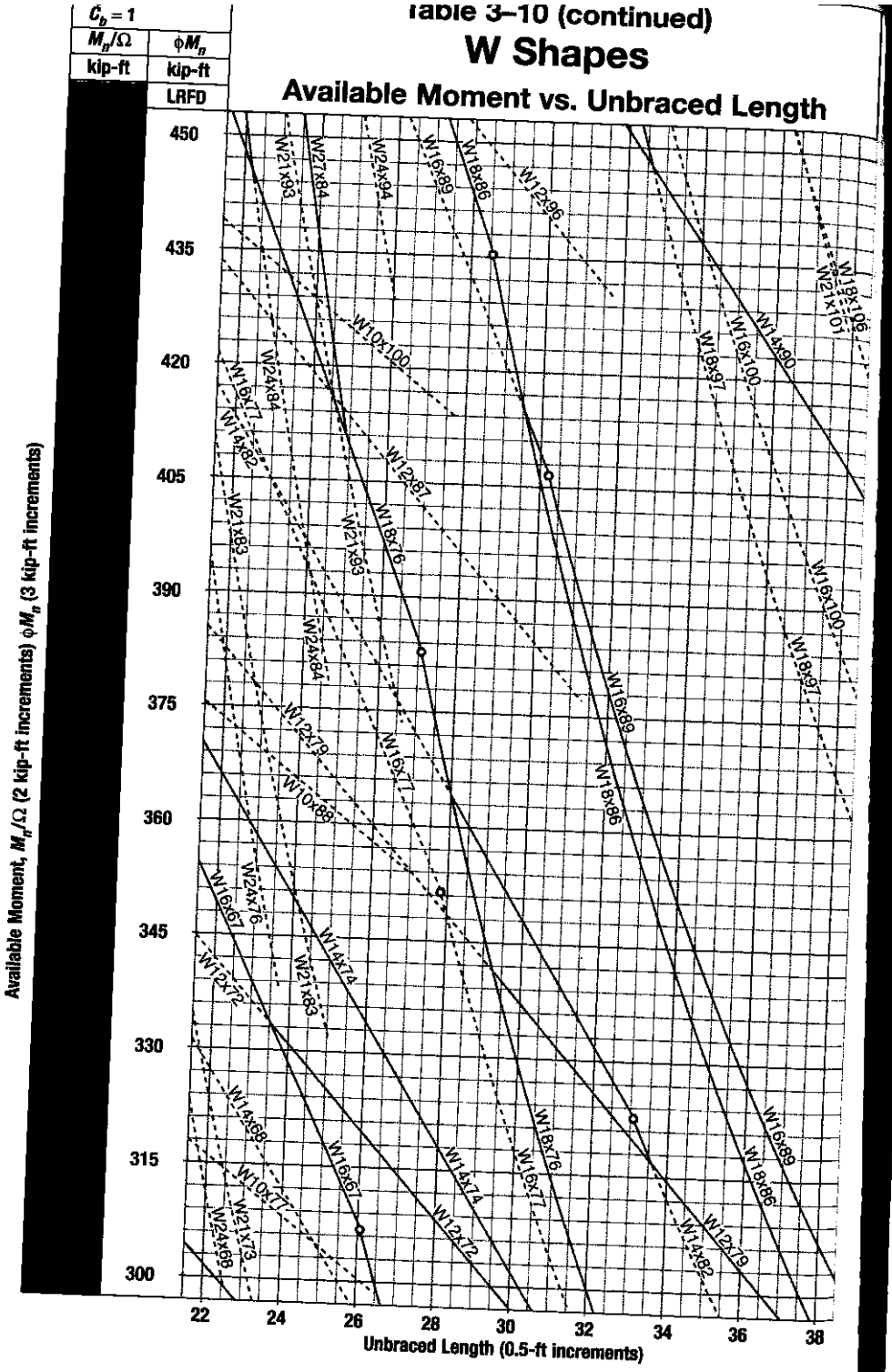


Table 3–10 (continued)
W Shapes
Available Moment vs. Unbraced Length
$C_b = 1$
M_n/Ω kip-ft
ϕM_n kip-ft
LRFD
Available Moment, M_n/Ω (2 kip-ft increments) ϕM_n (3 kip-ft increments)
Unbraced Length (0.5-ft increments)
W27x84
W24x94
W21x93
W18x106
W21x101
W18x86
W16x89
W12x96
W14x90
W10x100
W16x100
W18x97
W24x84
W16x77
W14x82
W12x87
W21x83
W18x76
W16x89
W18x86
W12x79
W10x88
W24x76
W16x67
W14x74
W21x73
W12x72
W14x68
W10x77
W14x99
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W18x76
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W12x72
W14x82
W12x79
W16x89
W18x86

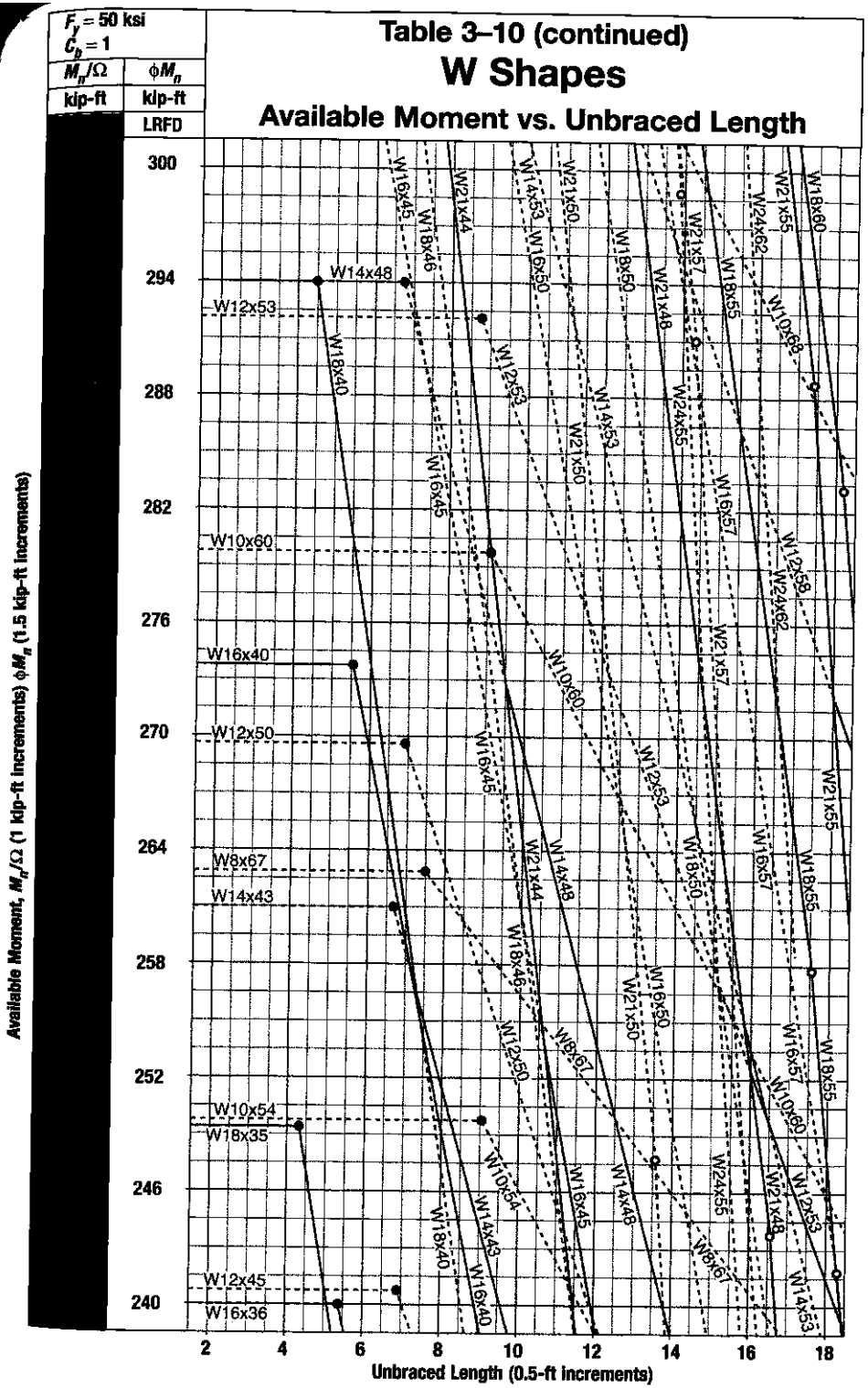


Table 3–10 (continued)
W Shapes
Available Moment vs. Unbraced Length
$F_y = 50$ ksi
$C_b = 1$
M_n/Ω kip-ft
ϕM_n kip-ft
LRFD
Available Moment, M_n/Ω (1 kip-ft increments) ϕM_n (1.5 kip-ft increments)
Unbraced Length (0.5-ft increments)
W14x48
W12x53
W18x40
W10x60
W16x40
W12x50
W8x67
W14x43
W10x54
W18x35
W12x45
W16x36
W18x60
W21x55
W24x62
W18x55
W21x57
W21x48
W16x50
W18x50
W21x44
W16x45
W14x53
W21x50
W24x55
W16x57
W12x58
W21x57
W10x68
W18x46
W12x53
W14x48
W16x50
W10x60
W8x61
W14x53

Table 3–10 (continued)

W Shapes

Available Moment vs. Unbraced Length

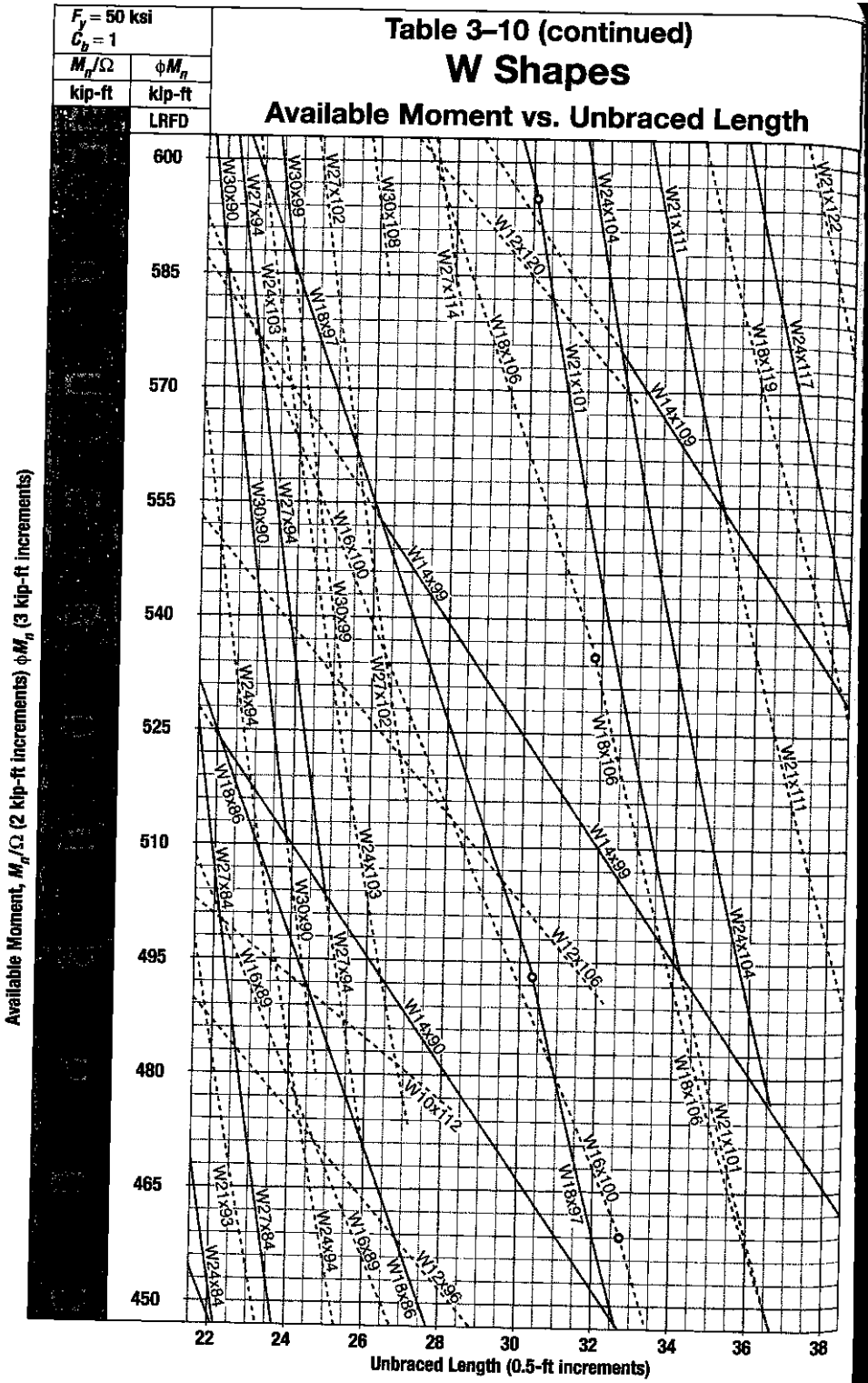


Table 3–10 (continued)

W Shapes

Available Moment vs. Unbraced Length

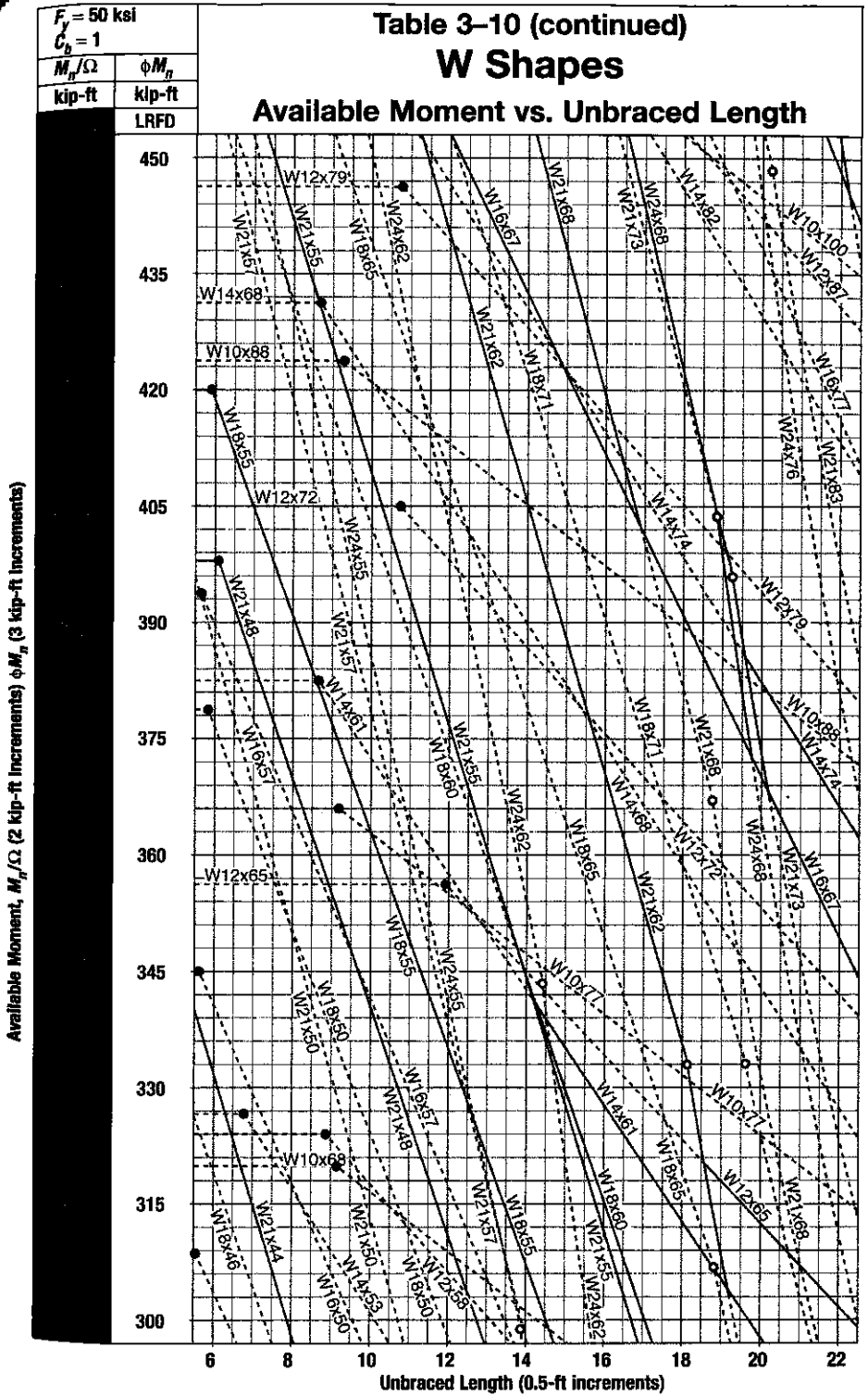


Table 3–10 (continued)

W Shapes

Available Moment vs. Unbraced Length

F_y = 50 ksi
C_b = 1

M_n/Ω	ϕM_n
kip-ft	kip-ft
	LRFD

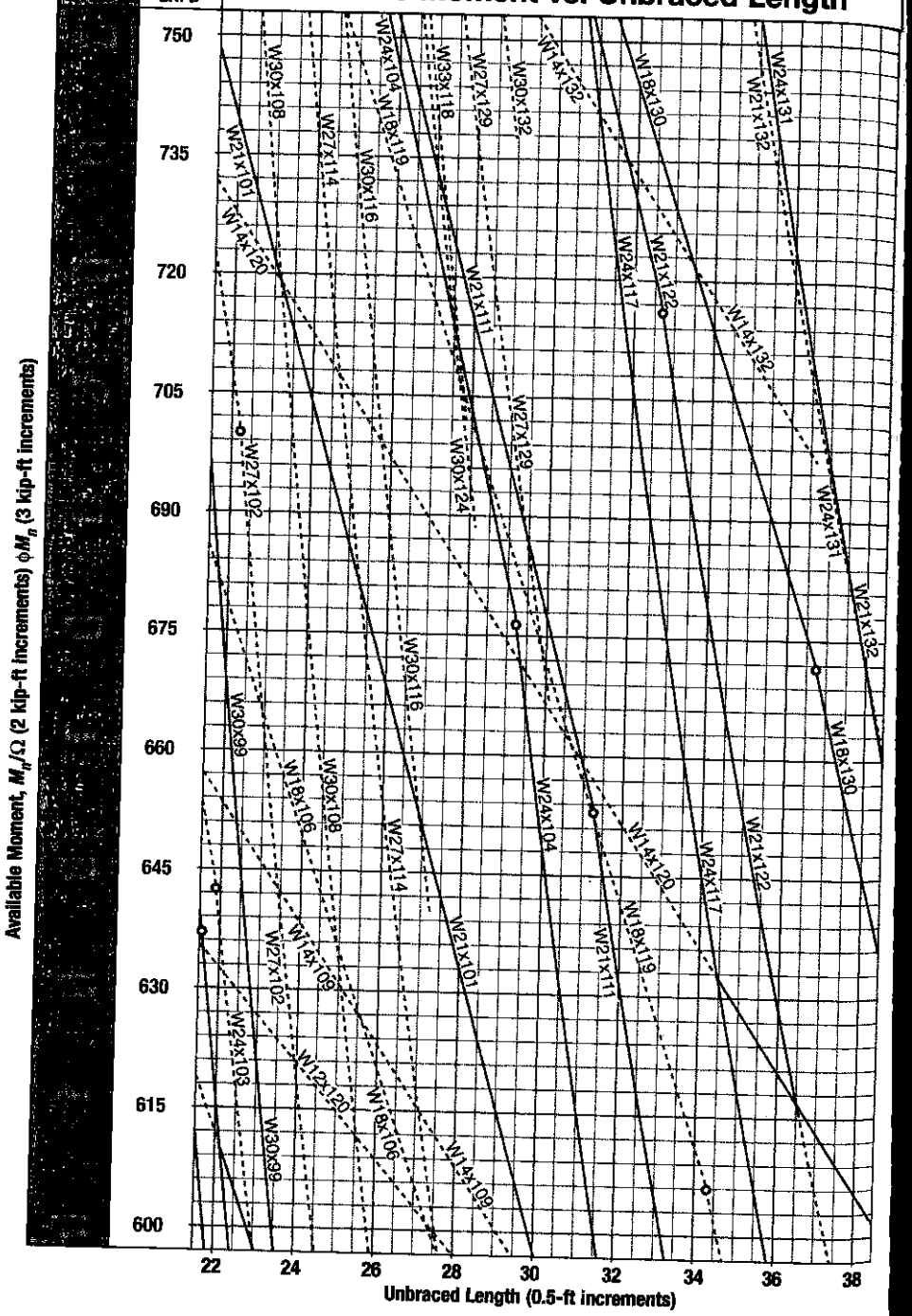


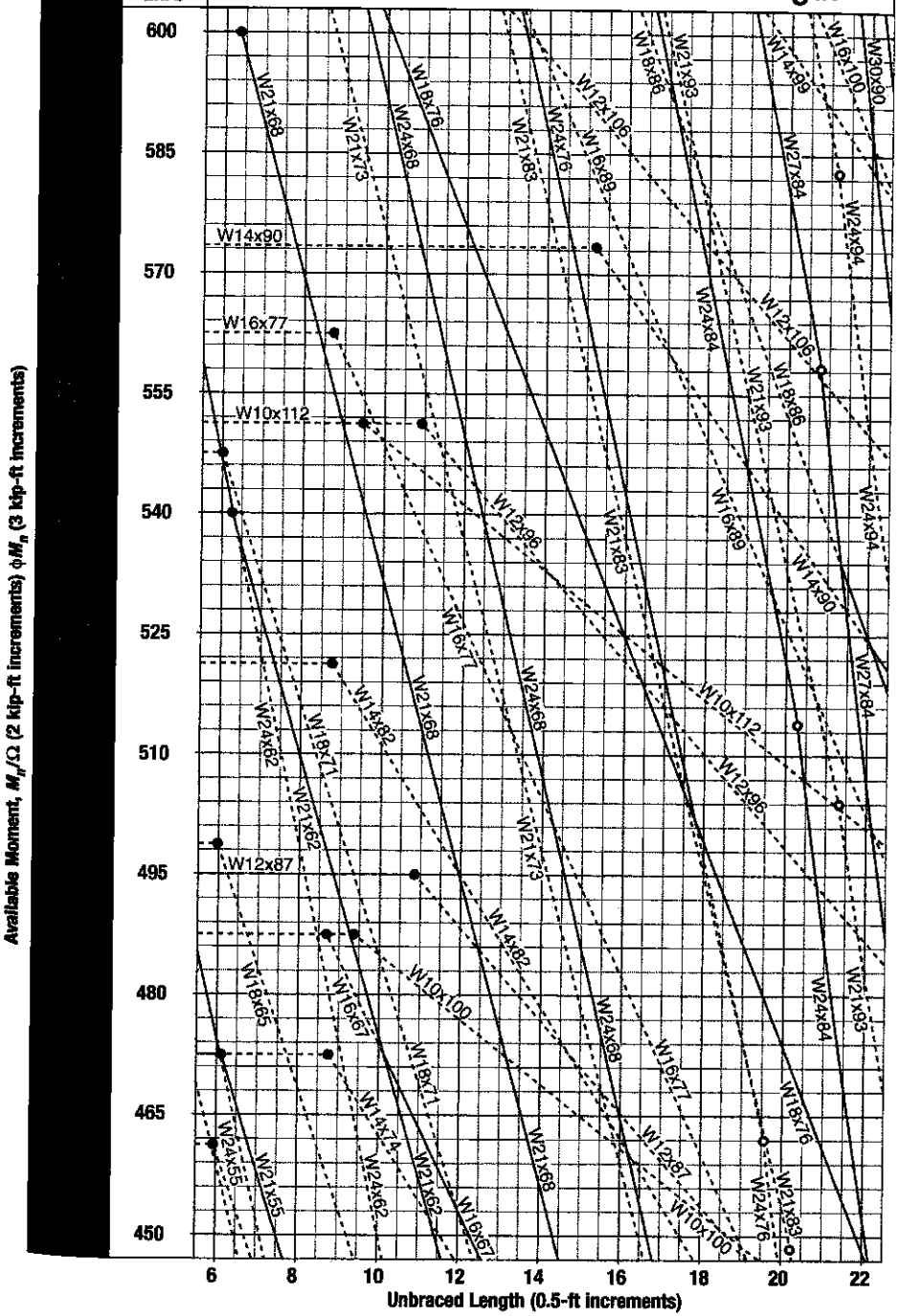
Table 3–10 (continued)

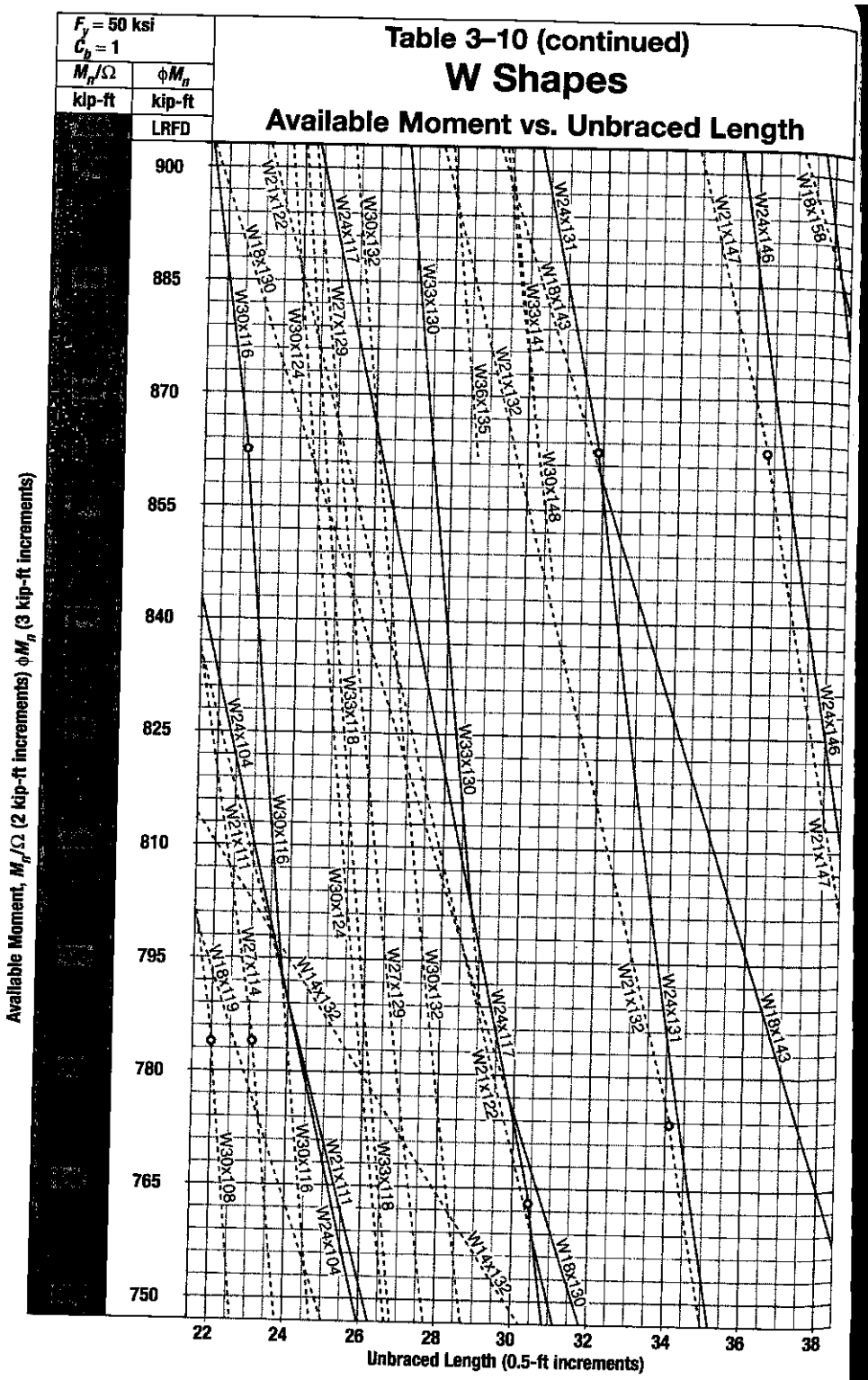
W Shapes

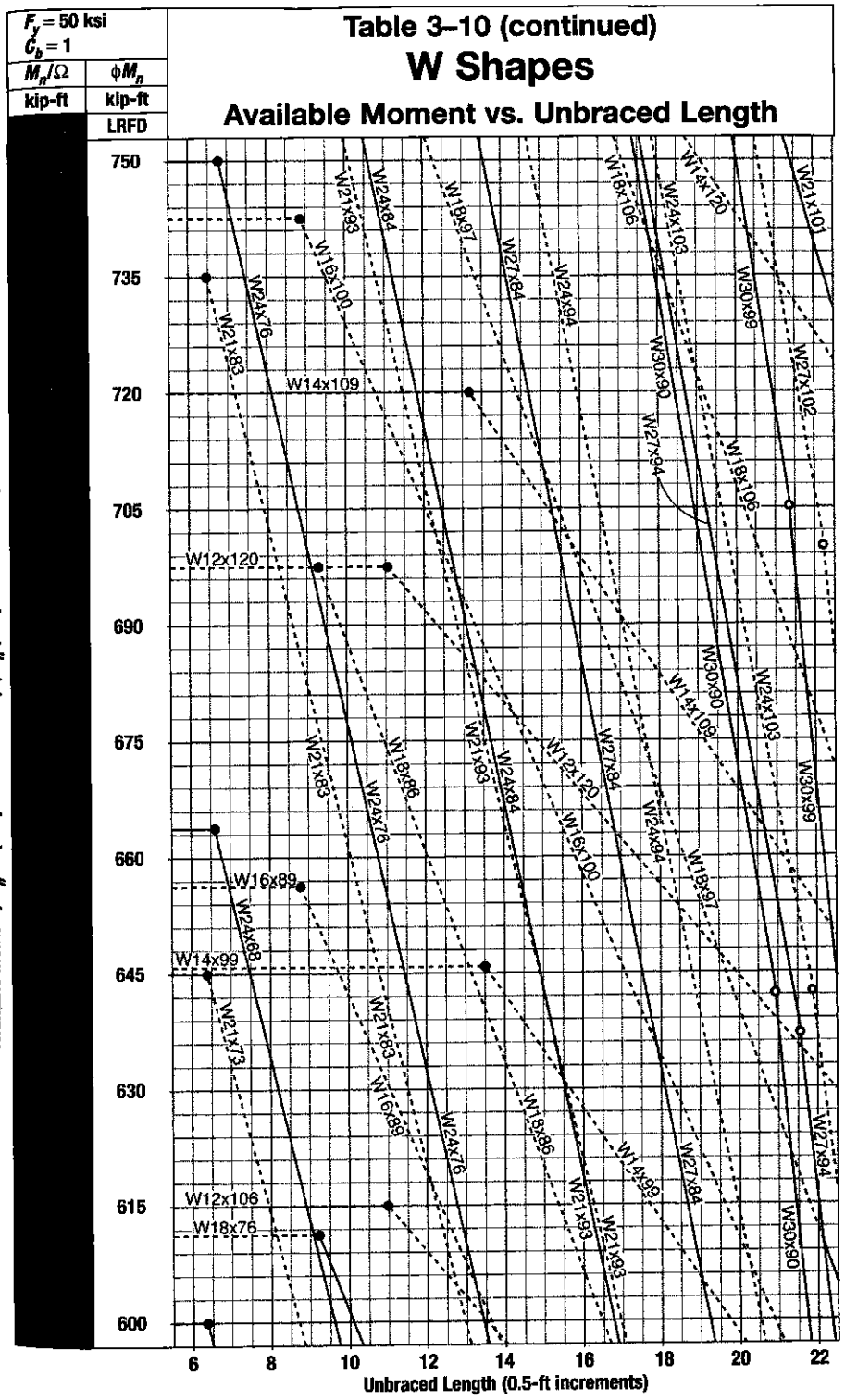
Available Moment vs. Unbraced Length

F_y = 50 ksi
C_b = 1

M_n/Ω	ϕM_n
kip-ft	kip-ft
	LRFD




F_y = 50 ksi
C_b = 1
M_n/Ω
kip-ft
ϕM_n
kip-ft
LRFD
Table 3–10 (continued)
W Shapes
Available Moment vs. Unbraced Length
Available Moment, M_n/Ω (2 kip-ft increments) ϕM_n (3 kip-ft increments)
900
885
870
855
840
825
810
795
780
765
750
W21x122
W18x130
W30x116
W24x117
W27x129
W30x124
W30x132
W33x130
W18x143
W24x131
W33x141
W21x132
W36x135
W30x148
W21x147
W24x146
W18x158
W24x104
W21x111
W30x116
W33x118
W27x114
W18x119
W30x124
W27x129
W14x132
W30x132
W24x117
W21x122
W21x132
W24x131
W18x143
W30x108
W30x116
W21x111
W24x104
W33x118
W14x132
W18x130
W21x147
22
24
26
28
30
32
34
36
38
Unbraced Length (0.5-ft increments)


F_y = 50 ksi
C_b = 1
M_n/Ω
kip-ft
ϕM_n
kip-ft
LRFD
Table 3–10 (continued)
W Shapes
Available Moment vs. Unbraced Length
Available Moment, M_n/Ω (2 kip-ft increments) ϕM_n (3 kip-ft increments)
750
735
720
705
690
675
660
645
630
615
600
W21x101
W14x120
W18x106
W24x103
W30x99
W27x102
W21x93
W19x100
W24x76
W21x83
W14x109
W24x84
W18x97
W27x84
W24x94
W30x90
W27x94
W18x106
W12x120
W18x86
W21x93
W24x84
W12x120
W18x100
W27x84
W24x94
W18x97
W16x89
W24x68
W14x99
W21x73
W21x83
W16x89
W24x76
W18x86
W14x99
W27x84
W21x93
W12x106
W18x76
6
8
10
12
14
16
18
20
22
Unbraced Length (0.5-ft increments)