



SPRINKLER APPLICATION CHART

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Approval Organizations

cULus

Underwriters Laboratories and
Underwriters Laboratories of Can-
ada

FM

FM Approvals

LPCB

Loss Prevention Certification
Board

VdS

VdS Schadenverhütung GmbH

CE

European Conformity Certificate

LL

cULus Certified to
NSF/ANSI Std. 61 Annex G
(Less than 0.25% Lead Content)

April 2024

STANDARD SPRAY STANDARD RESPONSE SPRINKLERS

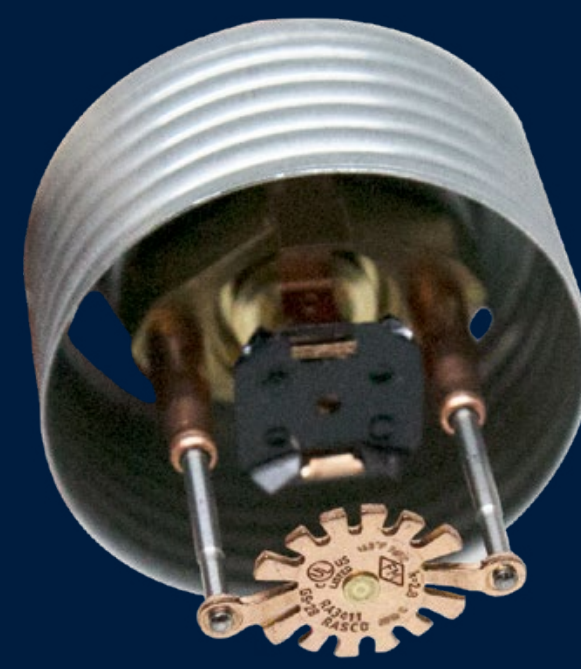
Orientation	K-Factor																		
	2.0 (29)		2.8 (40)			4.2 (60)		5.6 (80)					8.0 (115)				11.2 (160)		
	cULus	VdS	FM	cULus	VdS	cULus	VdS	cULus	FM	LPCB	VdS	CE	cULus	FM	VdS	CE	LPCB	cULus	
Upright	G R1022, Bulletin 110			F1-28 RA1321, Bulletin 066		F1-42 RA1323, Bulletin 067		F1-56 RA1325, Bulletin 071					F1-80 RA6222, Bulletin 062						
			G R1021, Bulletin 110			G R1023, Bulletin 110		F1-56-300 RA2525, Bulletin 075					F1-80-300 RA7622, Bulletin 076						
						F1XLH RA1323, Bulletin 184		G R1025, Bulletin 110					G R1027, Bulletin 110						
								F1-56SS RA6424, Bulletin 064					F1-80SS RA6422, Bulletin 064						
Pendent	G R1012, Bulletin 110			F1-28 RA1311, Bulletin 066		F1-42 RA1313, Bulletin 067		F1-56 RA1314, Bulletin 071					F1-80 RA6212, Bulletin 062						
			G R1011, Bulletin 110			G R1013, Bulletin 110		F1-56-300 RA2514, Bulletin 075					F1-80-300 RA7612, Bulletin 076						
						F1XLH RA1323, Bulletin 184		G R1015, Bulletin 110					G R1017, Bulletin 110						
								F1-56SS RA6414, Bulletin 064					F1-80SS RA6412, Bulletin 064						
Flat Concealed Pendent			G5-28 RA3411, Bulletin 034	G4 R2111, Bulletin 121		G4 R2113, Bulletin 121	G4 R2115, Bulletin 121						G5-80 with SR gasket cover RA3412, Bulletin 034	G5-80F RA3417, Bulletin 034				G4-11 with SR gasket cover R101, Bulletin 086	
			G5-28 with SR gasket cover RA3411, Bulletin 034			G5-42 with SR gasket cover RA3413, Bulletin 034		G4-300 R6115, Bulletin 161											
								G5-56 RA3415, Bulletin 034											
Vertical Sidewall								F1-56 RA1385, Bulletin 071											
									G R1285, Bulletin 110										
Horizontal Sidewall								F1-56 RA1335, Bulletin 071											
								G R1235, Bulletin 110											



G



F156



G5-28



G



F156SS

STANDARD SPRAY QUICK RESPONSE SPRINKLERS

Orientation	K-Factor																	
	2.8 (40)		4.0 (57)		4.2 (60)		5.6 (80)					8.0 (115)				11.2 (160)		
	cULus	VdS	CE	cULus	LL	FM	cULus	LPCB	VdS	CE	LL	FM	cULus	LPCB	VdS	CE	cULus	
Upright	F1FR28 RA1421, Bulletin 072			F1FR42 RA1423, Bulletin 073		F1FR56 RA1425, Bulletin 074					F1FR80 RA6322, Bulletin 063							
				F1FRXLH RA1423, Bulletin 184			F1FR56-300 RA2625, Bulletin 077						F1FR80-300 RA7822, Bulletin 078			F1FR80 International RA3822, Bulletin 038		
							KFR56 RA3624, Bulletin 036			KFR56 RA3624, Bulletin 036			KFR80 RA5422, Bulletin 054					
							KFR56-300 RA3924, Bulletin 039											
							F1FR56SS RA6524, Bulletin 065							F1FR80SS RA6522, Bulletin 065				
Pendent	F1FR28 RA1411, Bulletin 072	F1FR40 RA1418, Bulletin 183		F1FR42 RA1413, Bulletin 073		F1FR56 RA1414, Bulletin 074					F1FR80 RA6312, Bulletin 063							
				F1FR42LL RA1410 (Contact Factory)			F1FR56LL RA1415 (Contact Factory)				F1FR56LL RA1415 (Contact Factory)		F1FR80-300 RA7812, Bulletin 078			F1FR80 International RA3812, Bulletin 038		
				F1FRXLH RA1413, Bulletin 184			F1FR56-300 RA2614, Bulletin 026						KFR80 RA5412, Bulletin 054					
							KFR56 RA3614, Bulletin 036			KFR56 RA3614, Bulletin 036								
							KFR56-300 RA3914, Bulletin 039											
Flat Concealed Pendent	G5-28 RA3411, Bulletin 034			G5-42 RA3413, Bulletin 034			G5-56 RA3415, Bulletin 034						G5-80 RA3412, Bulletin 034				G4-11 with QR gasket cover R101, Bulletin 086	
Vertical Sidewall						F1FR56 RA1485, Bulletin 074												
Horizontal Sidewall						F1FR56 RA1435, Bulletin 074												
							F1FR56-300 RA2634, Bulletin 077											
							KFR56 RA3634, Bulletin 036			KFR56 RA3634, Bulletin 036								
							KFR56-300 RA3934, Bulletin 039											
Flat Concealed Horizontal Sidewall						XL Flush Commercial R4534, Bulletin 145												
						G6-56 RA5035, Bulletin 050												



F1FR56



KFR56



KFR56



F1FR80SS



F1FR56SS



G5-56

EXTENDED COVERAGE SPRINKLERS

Hazard	Orientation	K-Factor								
		5.6 (80)		8.0 (115)		11.2 (160)		14.0 (200)		25.2 (360)
		cULus	FM	cULus	FM	cULus	cULus	FM	cULus	FM
Light Hazard	Upright					JL112 R7326, Bulletin 172				
						J112 RA7326, Bulletin 172				
						J112SS R7826, Bulletin 178				
	Pendent	F1FR56 QREC** RA2845, Bulletin 028		F1FR80 QREC R4842, Bulletin 148		JL112 R7216, Bulletin 172				N252EC RA0842, Bulletin 008
		F1FR56-300 QREC** RA3045, Bulletin 030 <small>**Available with conical concealed cover plate</small>		F1FR-300 QREC R5942, Bulletin 159		J112 RA7216, Bulletin 172				
	Flat Concealed Pendent					J112SS R7816, Bulletin 178				
	Horizontal Sidewall	F1FR56 QREC RA2865, Bulletin 028		F1FR80 QREC R4862, Bulletin 148		G4XLO QR ECLH/ECOH R7146, Bulletin 171				
DH56 RA1564, Bulletin 015			F1FR-300 QREC R5962, Bulletin 159					MBEC-14 R6932, Bulletin 169		
			DH80 RA0362, Bulletin 003							
Conical Concealed Horizontal Sidewall	DH56 RA1564, Bulletin 015		DH80 RA0362, Bulletin 003							
Flat Concealed Horizontal Sidewall			SWC R5962, Bulletin 163							
			G6-80 RA4762, Bulletin 047							
Ordinary Hazard	Upright					JL112 R7326, Bulletin 172	GFR VELO-ECOH Upright R6553, Bulletin 160			
						J112 RA7326, Bulletin 172				
						J112SS R7826, Bulletin 178				
	Pendent					JL112 R7216, Bulletin 172	GFR VELO-ECOH Pendent R6043, Bulletin 160			N252EC RA0842, Bulletin 008
					J112 RA7216, Bulletin 172					
Flat Concealed Pendent					J112SS R7816, Bulletin 178					
Horizontal Sidewall					G4XLO QR ECLH/ECOH R7146, Bulletin 171			MBEC-14 R6932, Bulletin 169		
Extra Hazard	Pendent								N252EC RA0842, Bulletin 008	
	Horizontal Sidewall									



F1FR-QREC HSW



N252EC



J112



J112SS



F1FR-QREC



DH80

CONVENTIONAL SPRINKLERS

Orientation	K-Factor								
	4.2 (60)			5.6 (80)			8.0 (115)		
	CE	LPCB	VdS	CE	LPCB	VdS	CE	LPCB	VdS
Conventional (Upright and Pendent)				F1-56 RA1375, Bulletin 182			F1-80 R1772, Bulletin 182		
				F1FR56 RA1475, Bulletin 182				F1FR80 R3672, Bulletin 182	
	G R1074, Bulletin 079			G R1075, Bulletin 079			G R1077, Bulletin 079		



F1-56



F1FR56



G



F1FR80



F1-80

DRY SPRINKLERS

Category	Orientation	K-Factor						
		4.4 (63) cULus	cULus	FM	5.6 (80) LPCB	CE	VdS	8.0 (115) cULus
Standard Response	Upright		F3-56 R5324, Bulletin 153					
	Pendent				F3-56 R5314, Bulletin 153			F3-80 RA6012, Bulletin 060
	Conical Concealed Pendent				F3-56 R5314, Bulletin 153			
	Flat Concealed Pendent			G5-56 Dry RA5114, Bulletin 051				
	Horizontal Sidewall				F3-56 R5334, Bulletin 153			F3-80 RA6032, Bulletin 060
Quick Response	Upright		F3QR56 R5724, Bulletin 157					
	Pendent				F3QR56 R5714, Bulletin 157			F3QR80 RA6112, Bulletin 061
	Flat Concealed Pendent			G5-56 Dry RA5114, Bulletin 051				
	Horizontal Sidewall				F3QR56 R5734, Bulletin 157			F3QR80 RA6132, Bulletin 061
	Conical Concealed Horizontal Sidewall			DH56 Dry RA1664, Bulletin 016				DH80 Dry RA5532, Bulletin 055
Residential	Horizontal Sidewall		F3RES 44 Dry RA5231, Bulletin 052					DH80 Dry RA5532, Bulletin 055



F3QR80



F3QR56



DH56 Dry



F3-80



F3QR56

STORAGE SPRINKLERS

		K-Factor																	
		11.2 (160)		14.0 (200)				16.8 (240)				22.4 (320)				25.2 (360)		28.0 (400)	
Category	Orientation	cULus	FM	cULus	FM	LPCB	VdS	cULus	FM	LPCB	VdS	cULus	FM	LPCB	VdS	cULus	FM	cULus	
ESFR	Pendent			JL-14 RA1812, Bulletin 019				JL-17 RA1914, Bulletin 019				P22 R601, Bulletin 069				N25 ESFR RA0912, Bulletin 909		N28 R603, R604, Bulletin 082	
																	P25 R602, Bulletin 070		
CMDA Standard Response	Upright	GXLO R2921, Bulletin 129						J168 RA1124, Bulletin 011											
	Pendent	GXLO R2916, Bulletin 129		GVELO R4613, Bulletin 146													N252EC RA0842, Bulletin 008		
	Horizontal Sidewall			MBEC-14 R6932, Bulletin 169															
CMDA Quick Response	Upright		GL112 R3226, Bulletin 132																
	Pendent		GL112 R3216, Bulletin 132														N252EC RA0842, Bulletin 008		
CMSA	Pendent																N252EC RA0842, Bulletin 008		
	Horizontal Sidewall	LB11 R505, Bulletin 083																	



GXLO



GL112



N252EC



J168



N25 ESFR

RESIDENTIAL SPRINKLERS

Orientation	K-Factor												
	3.0 (43)		4.2 (60)		4.3 (62)		4.4 (63)		4.9 (71)		5.8 (84)		7.6 (109)
	cULus	LL	cULus	cULus	LL	cULus	LL	cULus	LL	cULus	LL	cULus	
Pendent	F1Res30 R3511, Bulletin 135							F1Res49 R3516, Bulletin 135		F1Res58 R3513, Bulletin 135			F1Res76 R7618, Bulletin 135
	F1Res30LL RA3311, Bulletin 033							F1Res49LL RA3316, Bulletin 033		F1Res58LL RA3313, Bulletin 033			
	KRes30 R3591, Bulletin 935							KRes49 R3596, Bulletin 935		KRes58 R3593, Bulletin 935			
Flat Concealed Pendent	RFC30 RA0611, Bulletin 006			RFC43 RA0612, Bulletin 006				RFC49 RA0616, Bulletin 006		RFC58 RA0613, Bulletin 006			RFC76 RA0618, Bulletin 006
	RFC30LL RA3211, Bulletin 006			RFC43LL RA3212, Bulletin 006				RFC49LL RA3216, Bulletin 006					
								RFC49 plus R401, Bulletin 188					
								RFC49LL plus R402, Bulletin 188					
Horizontal Sidewall						F1Res44 R3531, Bulletin 135				F1Res58 R3533, Bulletin 135			
						F1Res44LL RA3331, Bulletin 033				F1Res58LL RA3333, Bulletin 033			
						KRes44 RA3591, Bulletin 935				KRes58 RA3503, Bulletin 935			
										F1Res58 HSWX RA3533, Bulletin 135			
									KRes58 HSWX RA3593, Bulletin 935				
Flat Concealed Horizontal Sidewall			RFS42 RA4835, Bulletin 048										
Conical Concealed Horizontal Sidewall						F1RES44 R3531, Bulletin 135							
						F1RES44LL RA3331, Bulletin 033							



KRes30



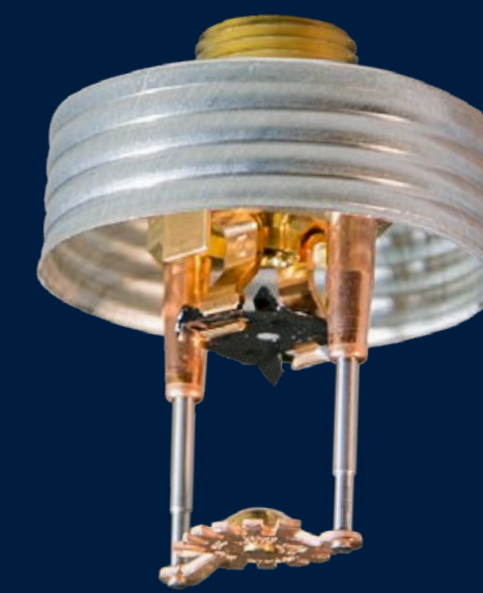
RFC58



F1Res58



RFC Cover Plate



RFC30



F1Res49

SPECIAL SPRINKLERS

Application	Listings and Approvals	K-Factor									
		4.2 (60)		5.6 (80)			8.0 (115)		14.0 (200)		
Attic	cULus	AH42 RA5623, Bulletin 056 General Purpose & Hip 4:12 to 8:12		DD56-6 RA5624, Bulletin 056 Dual Direction 4:12 to <6:12	DD56-27 RA5694, Bulletin 056 Dual Direction 6:12 to 8:12	DS56 RA5625, Bulletin 056 Single Direction 4:12 to 8:12	GP56 RA5695, Bulletin 056 General Purpose 4:12 to 8:12	AH56 RA5626, Bulletin 056 General Purpose & Hip 4:12 to 8:12	DD80-6 RA5622, Bulletin 056 Dual Direction 4:12 to <6:12	DD80-27 RA5692, Bulletin 056 Dual Direction 6:12 to 8:12	
Hallway	UL		LT56 RA5814, Bulletin 058	LT56L R5814, Bulletin 058	LT56-300 RA5914, Bulletin 058	LT56L-300 R5914, Bulletin 058	LT56C Concealed RA5994, Bulletin 058				
Combustible Concealed	cULus		KFR-CCS 56 RA4454, Bulletin 044								
Institutional	cULus		XL Flush Pendent R1314, Bulletin 113	XL Flush EC Pendent R1344, Bulletin 113	XL Horizontal Sidewall R1334, Bulletin 113						
MRI/Non-Ferrous Concealed	cULus		F4FR-NF RA0212, Bulletin 002								
Metal Building	cULus, FM										MBEC-14 R6932, Bulletin 169
Flat Spray	VdS, CE	F1FR-FS42 Flat Spray Bulletin 022	F1S5-FS42 Flat Spray RA2315, Bulletin 023	F1FR-FS56 Flat Spray Bulletin 022	F1-S5-FS56 Flat Spray RA2314, Bulletin 023				F1FR-FS LO Flat Spray RA3712, Bulletin 037		
Window	cULus			WP56 R501, Bulletin 181	WP56L R502, Bulletin 181	WP56C R504, Bulletin 181					



AH56



DD56-6



DD80



LT56



LT56L



LT56C