



## Model F1 Residential Sprinklers

Model F1 Res Sprinklers  
engineered for a minimum  
design density of .05 gpm/ft<sup>2</sup>

Types:

1. F1 Res 49 Pendent
2. F1 Res 40 HSW
3. F1 Res 49 CCP Pendent
4. F1 Res 49 Recessed Pendent / F1
5. F1 Res 49 Recessed Pendent / FP
6. F1 Res 40 Recessed HSW / F2

Listings & Approvals

Listed by Underwriters Laboratories Inc. and  
UL Certified for Canada (cULus)

UL Listing Category

Residential Automatic Sprinkler

UL Guide Number

VKKW

Product Description

Model F1 Res Pendent sprinklers (Figs. 1, 2, 3, & 4) are fast response sprinklers combining excellent durability, high sensitivity glass-bulb and low profile decorative design. The F1 Res Horizontal Sidewall sprinklers (Figs. 5 & 6) are equally attractive when above ceiling piping cannot be used.

The 3mm glass-bulb pendent sprinklers, with a K-Factor of 4.9, permit the efficient use of residential water supplies for sprinkler coverage in residential fire protection design.

The low flow F1 Res sprinklers are specially engineered for fast thermal response to meet the sensitive fire protection application needs of the latest residential market standards (UL 1626 Standard\*). Upon fire conditions, rising heat causes a sprinkler's heat-sensitive glass-bulb to shatter, releasing the waterway for water flow onto the deflector, evenly distributing the discharged water to control a fire.

Technical Data:

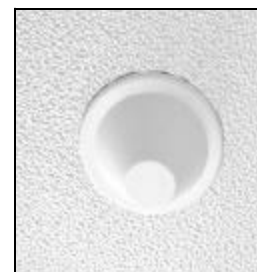
- Thermal Sensor: Nominal 3mm glass-bulb
- Sprinkler Frame : Brass Casting
- Sprinklers' Pressure Rating : 175 psi  
Factory Hydrostatically Tested to 500 psi
- Thread Size: ½" NPT (R ½)
- K-Factor: 4.9 (Actual) - Pendent Sprinkler  
4.0 (Actual) - HSW Sprinkler
- Density: Minimum 0.05 gpm/ft<sup>2</sup>



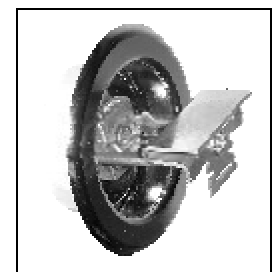
F1 Res 49 Recessed  
Pendent / F1



F1 Res 49 Recessed  
Pendent / FP



F1 Res 49 CCP  
Pendent



F1 Res 40 Recessed  
HSW/F2

Application

Model F1 Res Sprinklers are used for Residential Fire Protection according to UL 1626 Standard\*. Be sure that orifice size, temperature rating, deflector style and sprinkler type are in accordance with the latest published standards of The National Fire Protection Association or the approving authority having jurisdiction.

Installation

Models F1 Res sprinklers are to be installed as shown. Model F1, F2 and FP Escutcheons, illustrated herewith, are the only recessed escutcheons to be used with Model F1 Res sprinklers. Use of any other recessed escutcheon will void all approvals and warranties. For installing Model F1 Res Pendent sprinklers use only the Model D sprinkler Wrench; for installing Models F1 Res Recessed Pendent & CCP sprinklers use only the Model GFR1 sprinkler wrench; for installing Model F1 Res Recessed HSW sprinklers use only the Model GFR1 Sprinkler Wrench. Use of wrenches other than those specified may damage these sprinklers. Install F1 Res 40 HSW with a ceiling to deflector distance of 4" - 12". Flow arrow on deflector must point away from near wall and "Top" marking must face ceiling.

\* Effective date 7/12/02

- Model F1 Res 49 Pendent



- Model F1 Res 49 Recessed Pendent / F1



[F1 escutcheon,  $\frac{3}{4}$ " (19mm) adjustment]

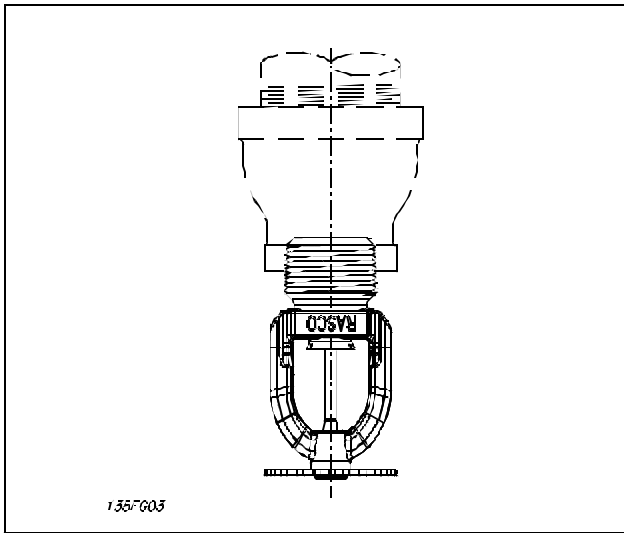


Fig. 1

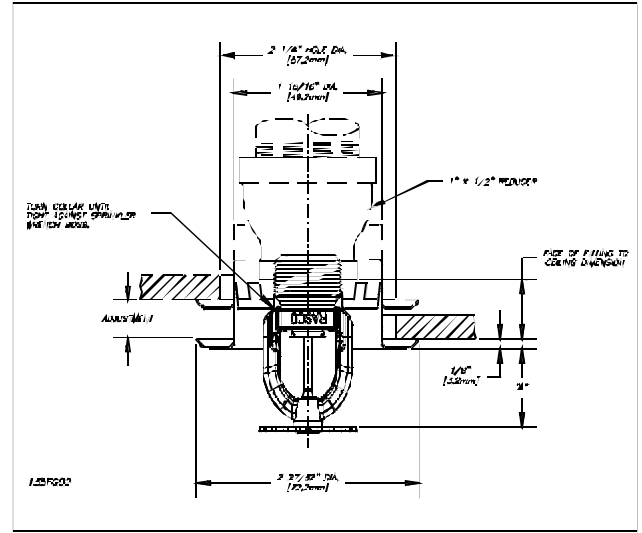


Fig. 2

Technical Data: F1 Res 49 Pendent and Recessed Pendent

Thread Size	Sprinkler Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		Actual K Factor	Sprinkler Length inch (mm)
	°F	°C		°F	°C		
$\frac{1}{2}$ " NPT (R $\frac{1}{2}$ )	155 175	68 79	175 (12)	100 150	38 66	4.9	2.25 (57)

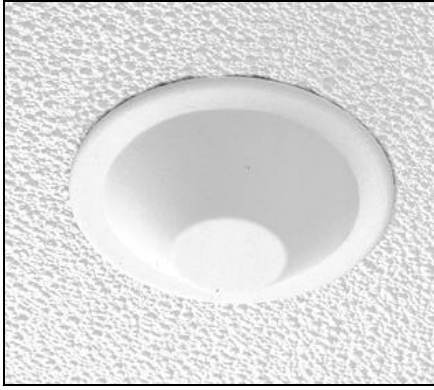
Escutcheon\*, F1 or F2, Data:

Type	Adjustment inch (mm)	"A" inch (mm)	Face of fitting to ceiling Inch (mm)
F1	$\frac{3}{4}$ (19.0)	$\frac{7}{8}$ (22.2)	$\frac{3}{16}$ - $1\frac{5}{16}$ (4.7 - 24.0)
F2	$\frac{1}{2}$ (12.7)	$1\frac{5}{16}$ (11.9)	$\frac{3}{16}$ - $1\frac{1}{8}$ (4.7 - 17.4)

\* Note: Escutcheons F1 or F2 may be used with Model F1 Res 49 Recessed Pendent Sprinkler

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3.6x3.6)	13 (49)	7.0 (0.48)	R3516
14 x 14 (4.3x4.3)	13 (49)	7.0 (0.48)	
16 x 16 (4.9x4.9)	13 (49)	7.0 (0.48)	
18 x 18 (5.5x5.5)	17 (64.3)	12.0 (0.83)	
20 x 20 (6.1x6.1)	20 (75.7)	16.6 (1.14)	

- Model F1 Res 49 CCP  
Pendent



- Model F1 Res 49 Recessed  
Pendent / FP



(FP push-on/thread-off escutcheon)

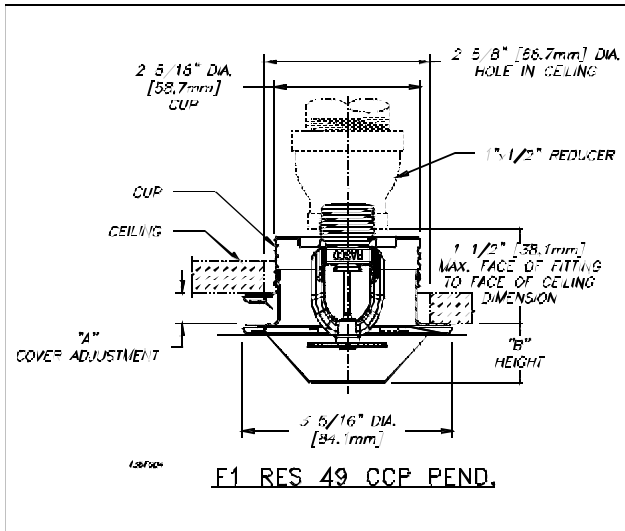


Fig. 3

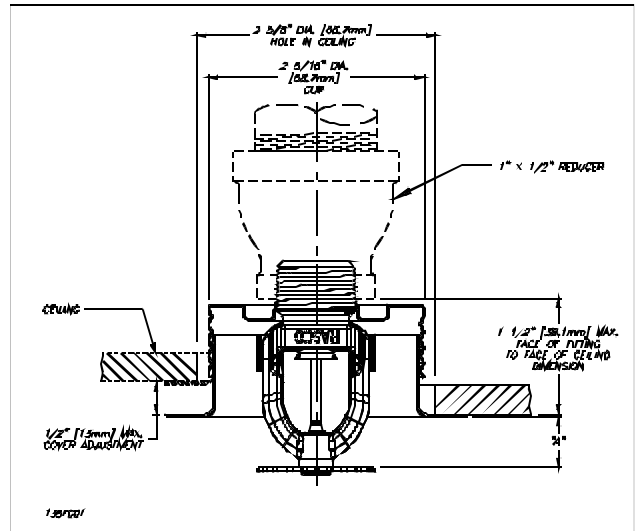


Fig. 4

Technical Data: F1 Res 49 CCP and FP

Thread Size	Sprinkler Temp. Rating		CCP Assembly Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		K Factor	Sprinkler Length inch (mm)
	°F	°C	°F	°C		°F	°C		
1/2" NPT (R1/2)	155	68	135	57	175 (12)	100 150	38 66	4.9	2.25 (57)

CCP Options Data:

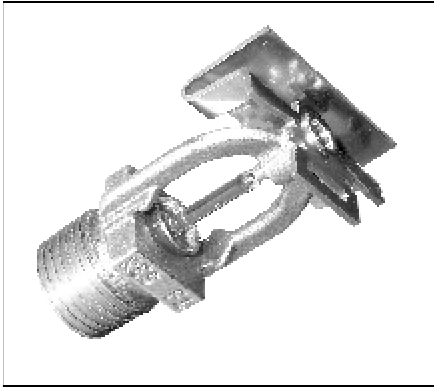
"A" Cover Adjustment inch (mm)	"B" CCP Height inch (mm)
1/2 (12.7)	15/16 (24)
5/16 (7.9)	3/4 (19)

Max. Sprinkler Spacing ft (m)	Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number (SIN)
12 x 12 (3.6x3.6)	13 (49)	7.0 (0.48)	R3516
14 x 14 (4.3x4.3)	13 (49)	7.0 (0.48)	
16 x 16 (4.9x4.9)	14 (53)	8.2 (0.56)	
18 x 18 (5.5x5.5)	18 (68.1)	13.5 (0.93)	
20 x 20 (6.1x6.1)	20 (75.7)	16.6 (1.14)	

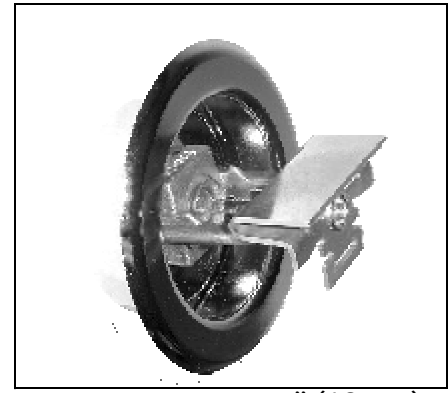
FP Data "A":

FP Position	"A" inch (mm)
Fully Recessed	7/16 (11)
Fully Retracted	15/16 (24)

• Model F1 Res 40 HSW



• Model F1 Res 40 Recessed HSW/F2



[F2 escutcheon, 1/2" (13mm) adjustment]

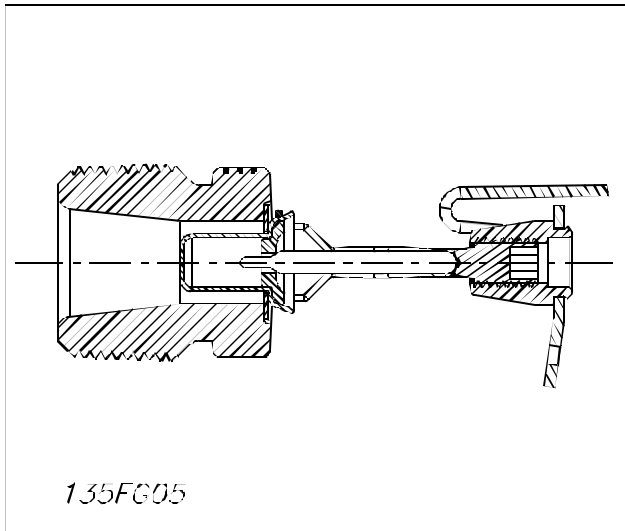


Fig. 5

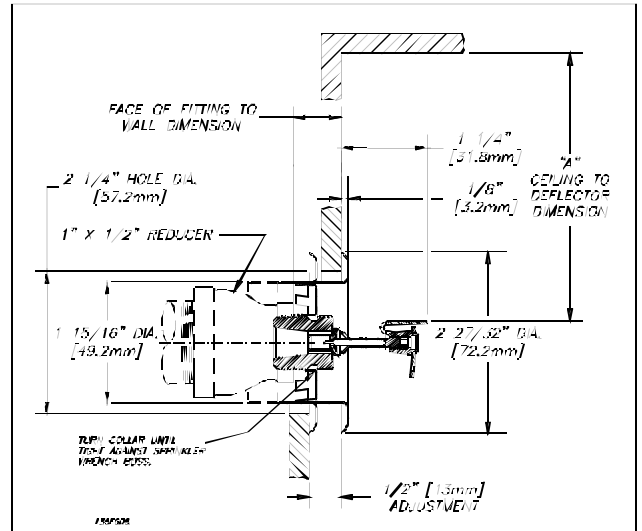


Fig. 6

Technical Data: F1 Res 40 HSW & HSW/F2

Thread Size	Sprinkler Temp. Rating		Max. Pressure psi (bar)	Max. Ambient Temp.		K Factor	Sprinkler Length Inch (mm)
	°F	°C		°F	°C		
1/2" NPT (R1/2)	155	68	175 (12)	100	38	4.0	2.45 (62)
	175	79		150	66		

Escutcheon, F2, Data:

Type	Adjustment inch (mm)	Face of Fitting to wall Inch (mm)
F2	1/2 (13)	3/16 - 1/16 (4.7 - 17.4)

Max. Sprinkler Spacing ft (m)	"A" Ceiling-to-Deflector Inch (mm)	Sprinkler Temp. Rating °F (°C)		Flow gpm (Lpm)	Pressure psi (bar)	Sprinkler Identification Number(SIN)
12 x 12 (3.6x3.6)	4 - 6 (101-152)	155 (68)	175 (79)	13 (49.0)	10.6 (0.73)	R3538
14 x 14 (4.3x4.3)		155 (68)	175 (79)	16 (60.5)	16.0 (1.10)	
16 x 16 (4.9x4.9)		155 (68)		17 (64.3)	18.1 (1.24)	
16 x 16 (4.9x4.9)			175 (79)	18 (68.1)	20.2 (1.39)	
16 x 18 (4.9x5.5)		155 (68)	175 (79)	20 (75.7)	25.0 (1.72)	
18 x 18 (5.5x5.5)		155 (68)	175 (79)	22 (83.3)	30.2 (2.08)	
16 x 20 (4.9x6.1)		155 (68)	175 (79)	23 (87.0)	33.1 (2.28)	
12 x 12 (3.6x3.6)	6 - 12 (152-305)	155 (68)	175 (79)	13 (49.0)	10.6 (0.73)	
14 x 14 (4.3x4.3)		155 (68)	175 (79)	17 (64.3)	18.1 (1.24)	
16 x 16 (4.9x4.9)		155 (68)	175 (79)	20 (75.7)	25.0 (1.72)	

## Finishes<sup>(1)</sup>

Standard Finishes	
Sprinkler	F1, F2, FP Escutcheons
Bronze Chrome Plated White Polyester Coated	Brass Bright Chrome Plated White Painted
Special Application Finishes	
Sprinkler	F1, F2, Escutcheons
Bright Brass Black Plated Black Paint Off White Satin Chrome	Bright Brass Black Plated Black Paint Off White Satin Chrome

<sup>(1)</sup> Other finishes and colors are available on special order. Consult factory for details.

## Ordering Information

Specify:

1. Sprinkler Model
2. Sprinkler Type
3. Temperature Rating
4. Sprinkler Finish
5. Escutcheon Finish

## Maintenance

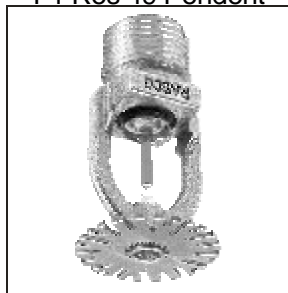
Model F1 Res 49 and F1 Res 40 Sprinklers should be inspected quarterly, and the sprinkler system maintained in accordance with NFPA 25, 13, 13D, and 13R. Do not clean sprinkler with soap and water, Ammonia or any other cleaning fluids. Remove dust by using a soft brush or gentle vacuuming. Remove any sprinkler which has been painted (other than

factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

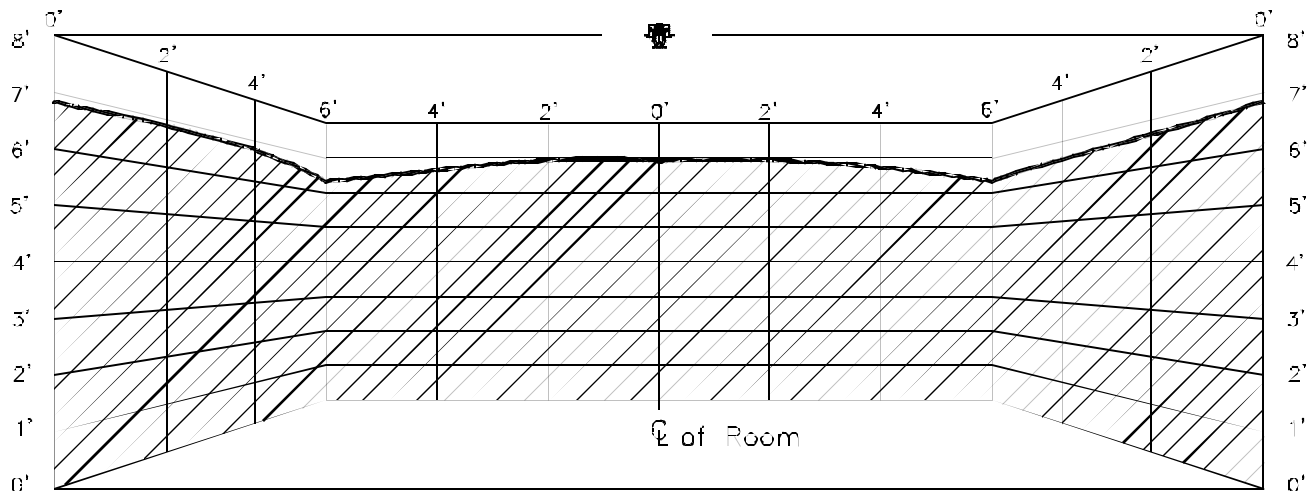
Following are depictions of nominal wetting patterns for F1 Res 40 and F1 Res 49 Sprinklers obtained at minimum flow conditions for selected coverage areas.

## F1Res 49 Pendant & Recessed Pendant Wetting Patterns:

F1 Res 49 Pendant



F1 Res 49 Recessed Pendant /F1

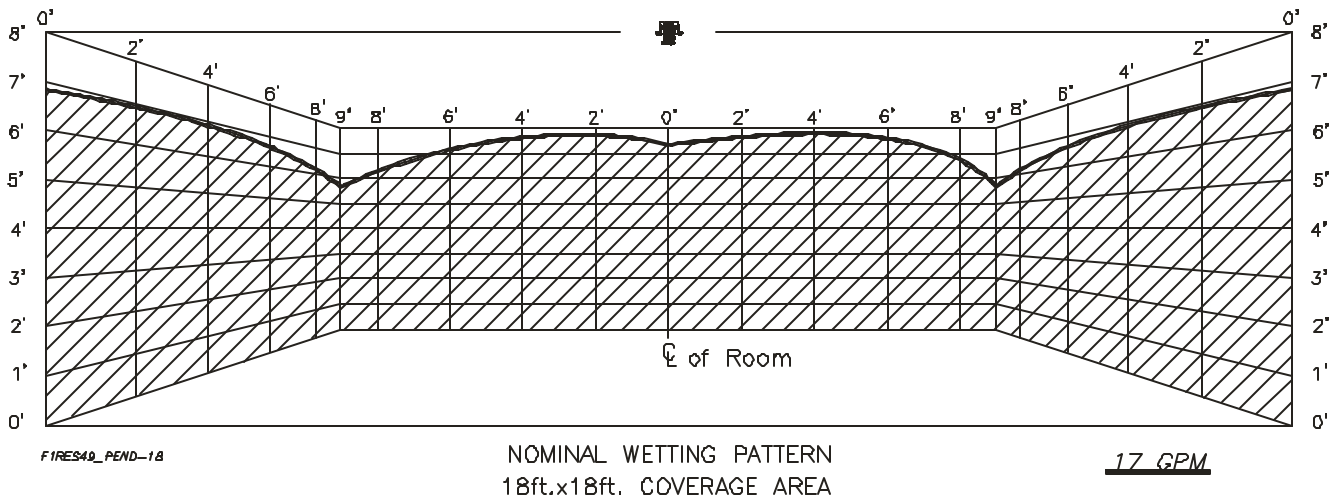
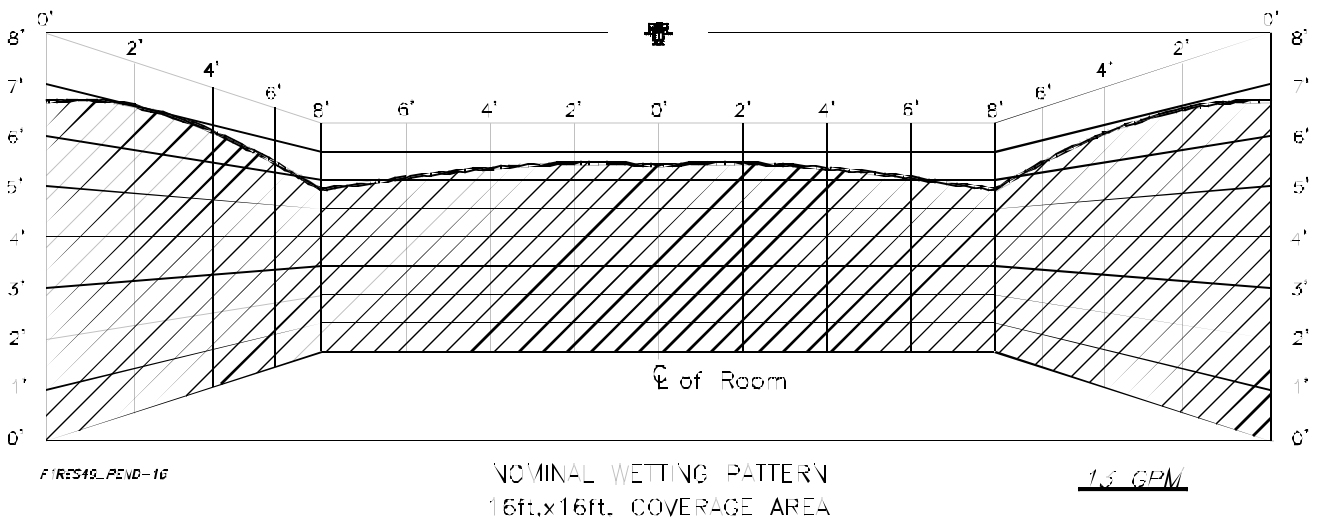
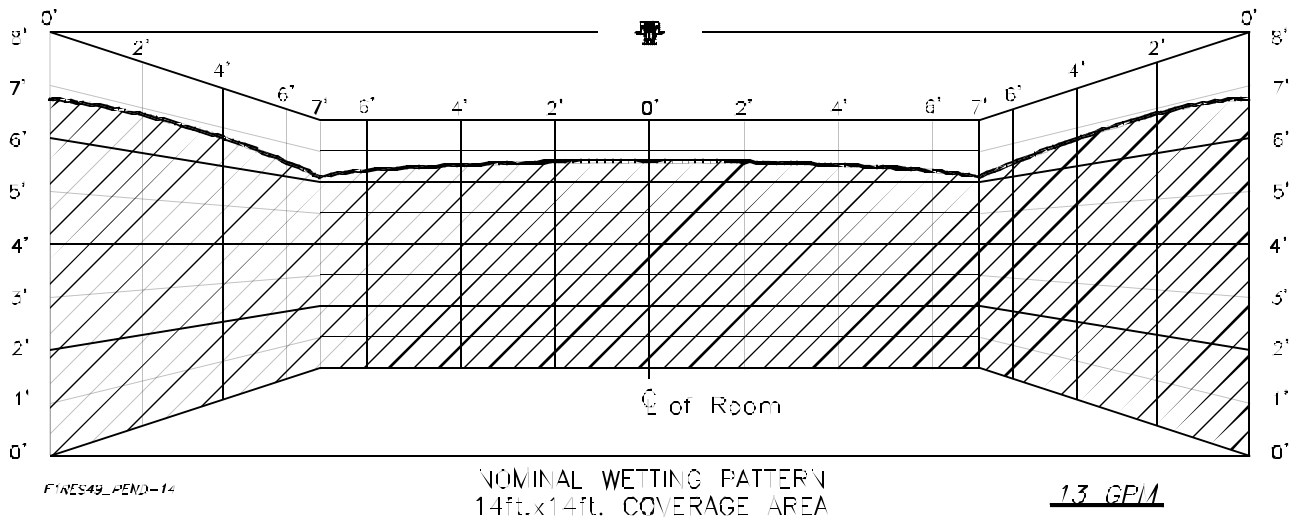


FIRES49\_PEND-12

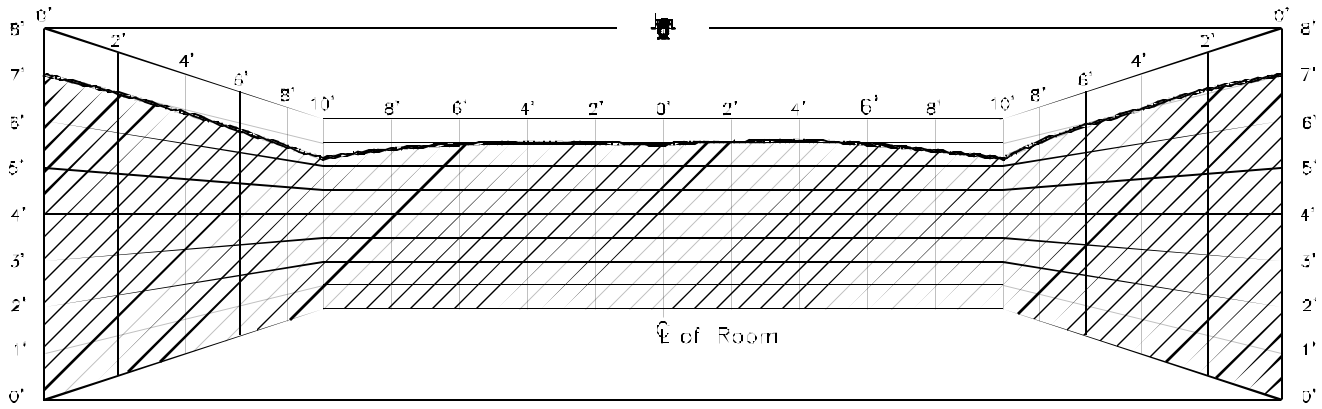
NOMINAL WETTING PATTERN  
12ft.x12ft. COVERAGE AREA (Or less)

1.3 GPM

# F1Res 49 Pendent & Recessed Pendent Wetting Patterns (cont.):



# F1Res 49 Pendant & Recessed Pendant Wetting Patterns (cont.):



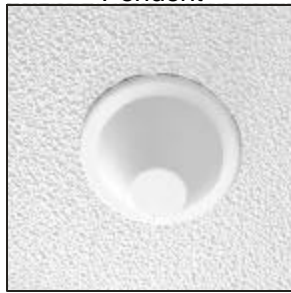
F1RES49\_PEND-20

NOMINAL WETTING PATTERN  
20ft.x20ft. COVERAGE AREA

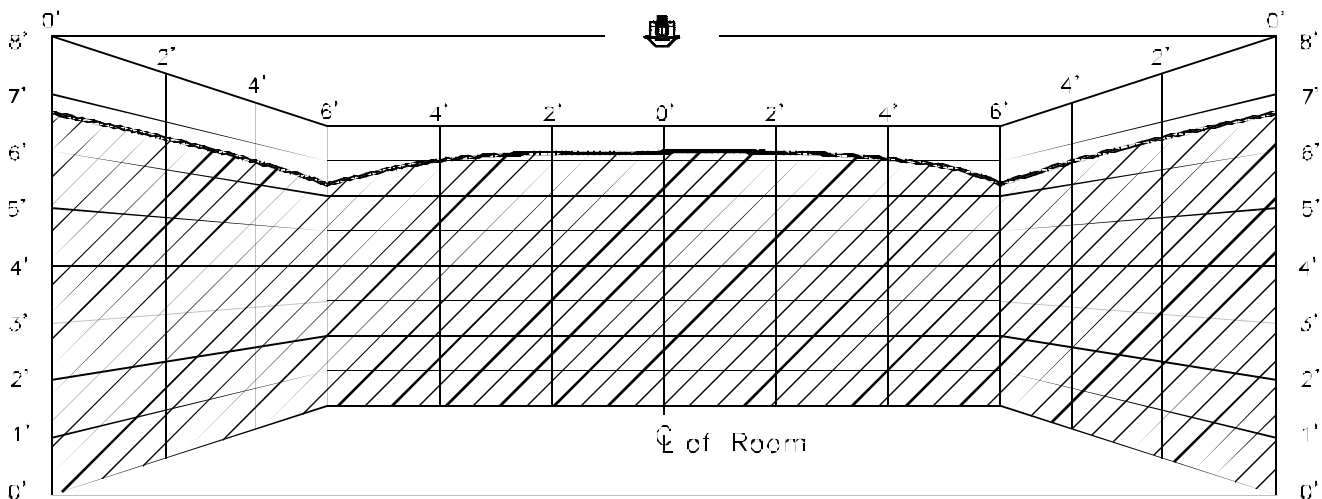
20 GPM

# F1 Res 49 CCP & F1 Res 49 Recessed/FP Wetting Patterns:

F1 Res 49 CCP  
Pendent



F1 Res 49 Recessed  
Pendent/FP

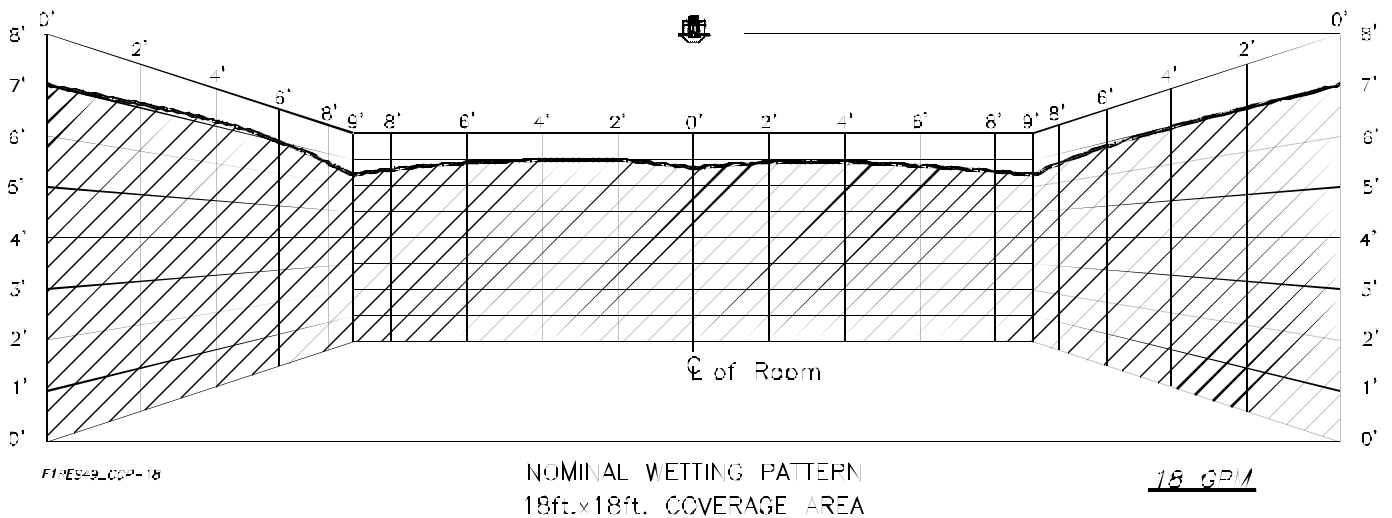
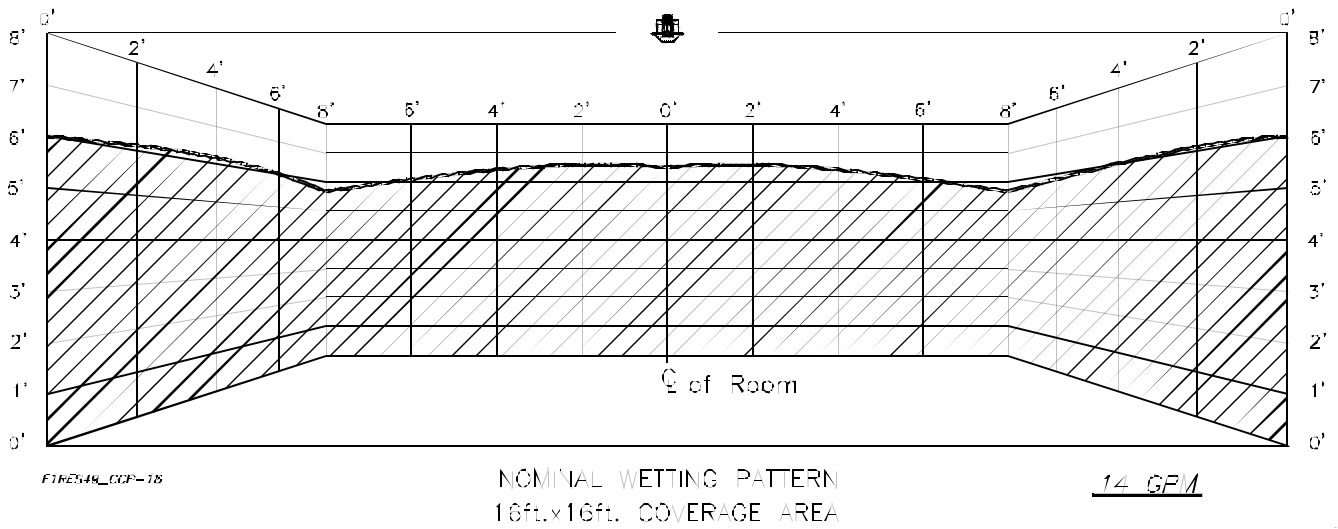
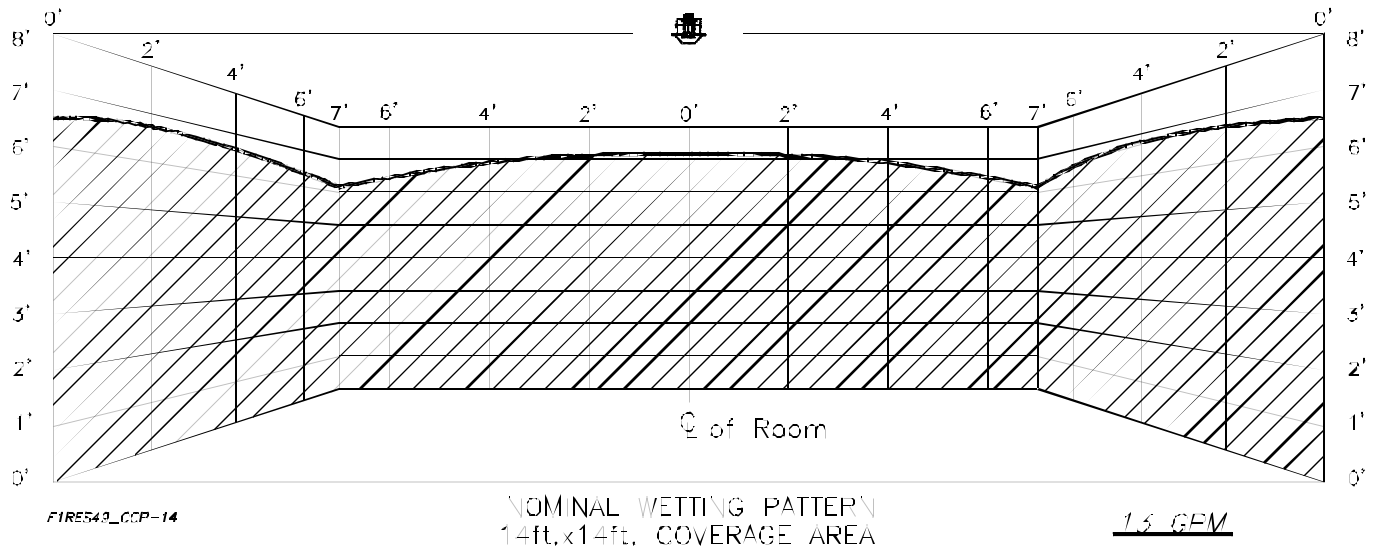


F1RES49\_CCP-12

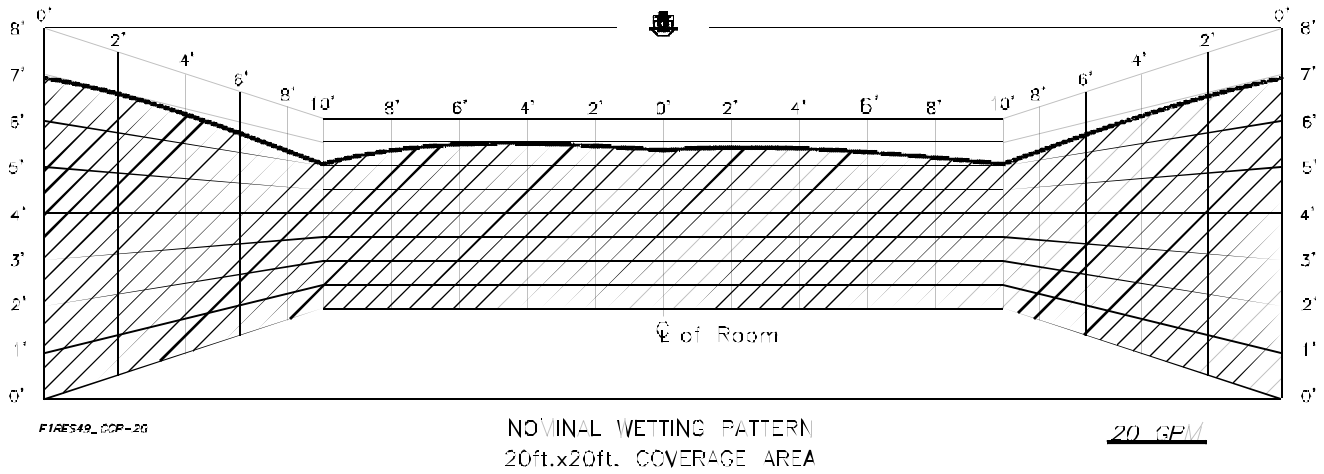
NOMINAL WETTING PATTERN  
12ft.x12ft. COVERAGE AREA (Or less)

13 GPM

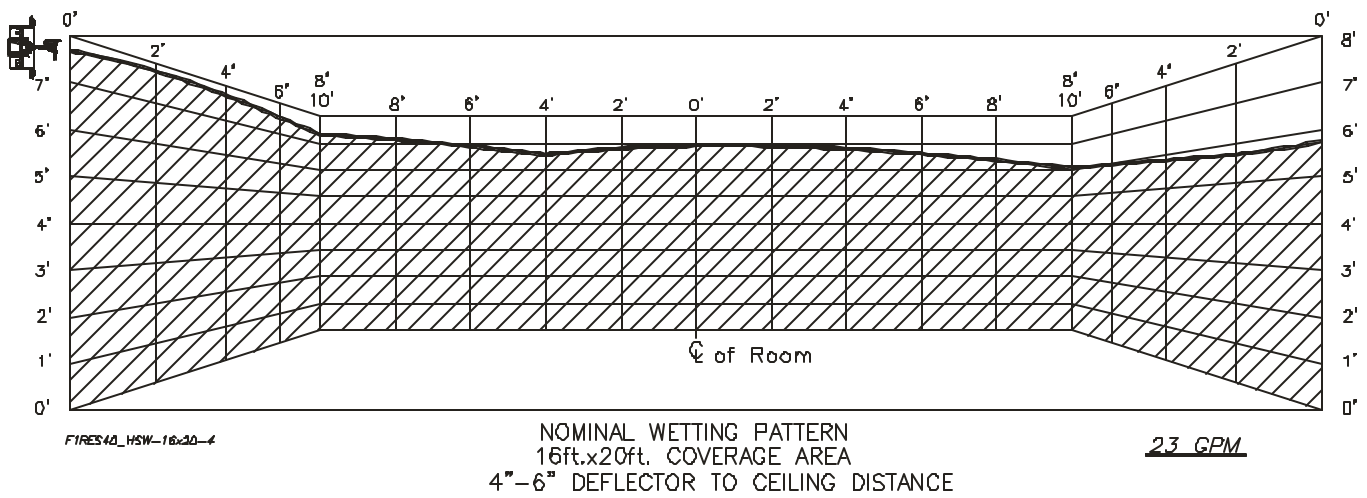
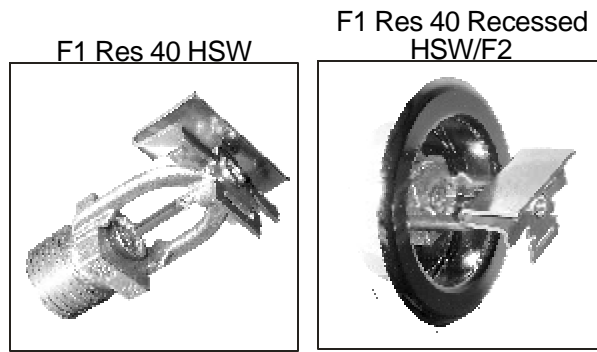
# F1 Res 49 CCP & F1 Res 49 Recessed/FP Wetting Patterns (cont.):



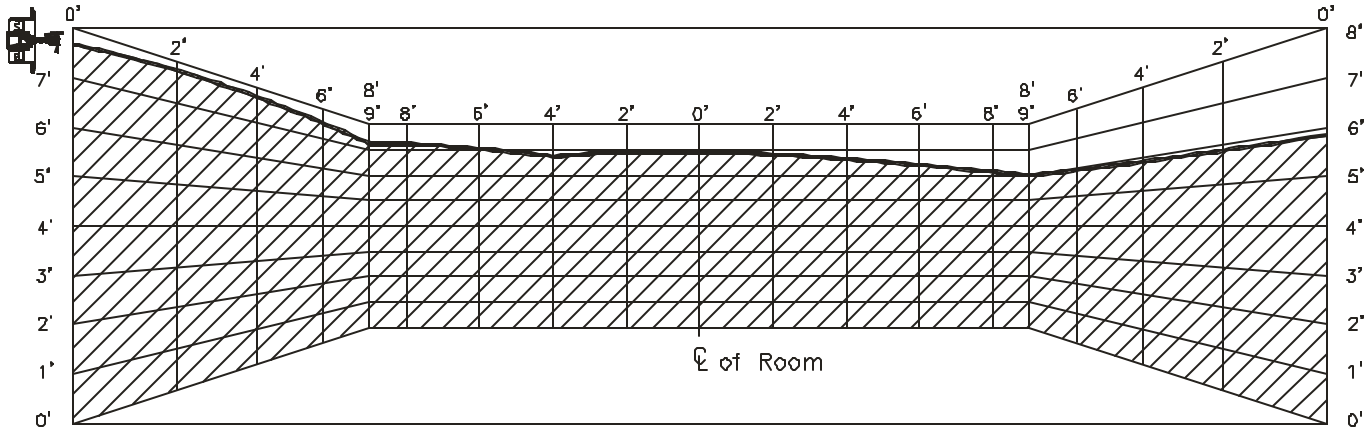
# F1 Res 49 CCP & F1 Res 49 Recessed/FP Wetting Patterns (cont.)



# F1 Res 40 HSW & F1 Res 40 Recessed HSW/F2 Wetting Patterns:



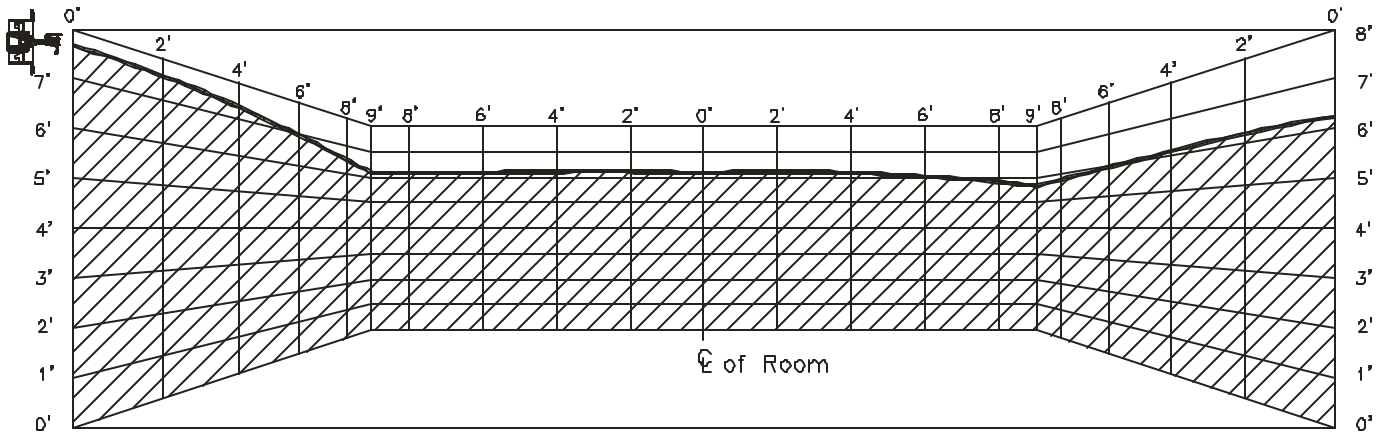
# F1 Res 40 HSW & F1 Res 40 Recessed HSW/F2 Wetting Patterns (cont.):



F1RES40\_HSW-76x18-4

NOMINAL WETTING PATTERN  
16ft.x18ft. COVERAGE AREA  
4"-6" DEFLECTOR TO CEILING DISTANCE

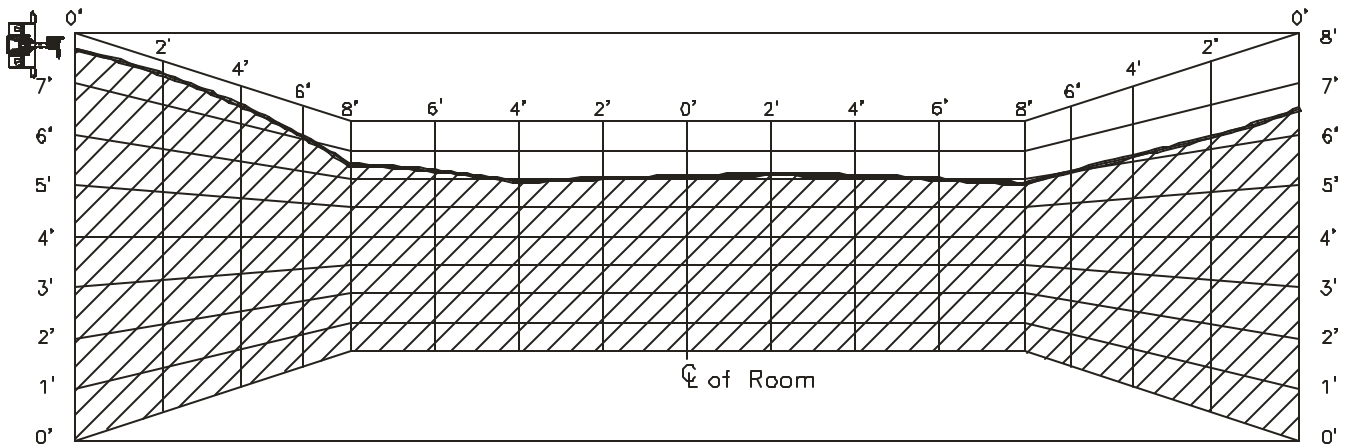
20 GPM



F1RES40\_HSW-18x18-4

NOMINAL WETTING PATTERN  
18ft.x18ft. COVERAGE AREA  
4"-6" DEFLECTOR TO CEILING DISTANCE

22 GPM

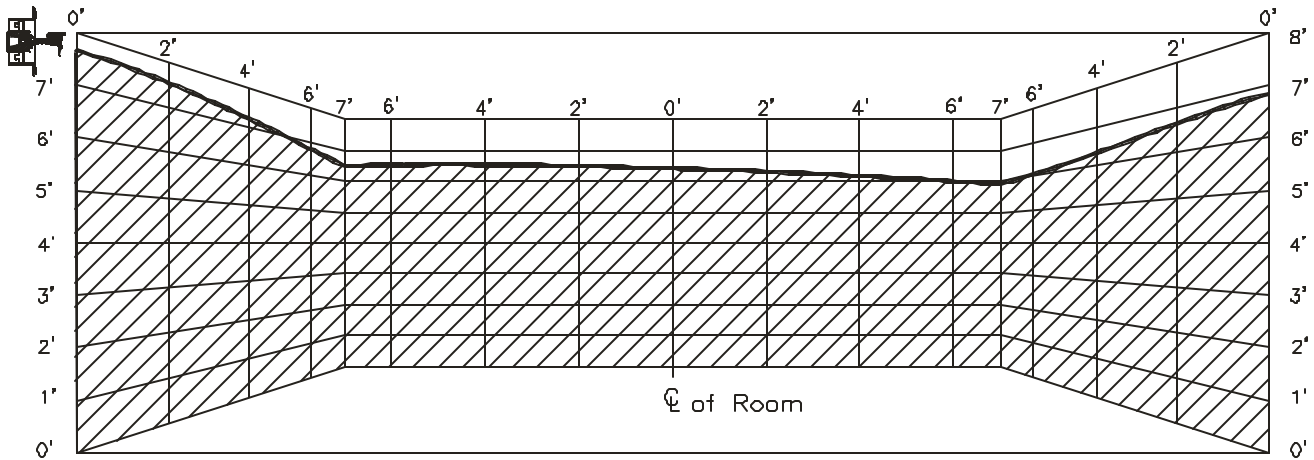


F1RES40\_HSW-16x16-4

NOMINAL WETTING PATTERN  
16ft.x16ft. COVERAGE AREA  
4"-6" DEFLECTOR TO CEILING DISTANCE

17 GPM

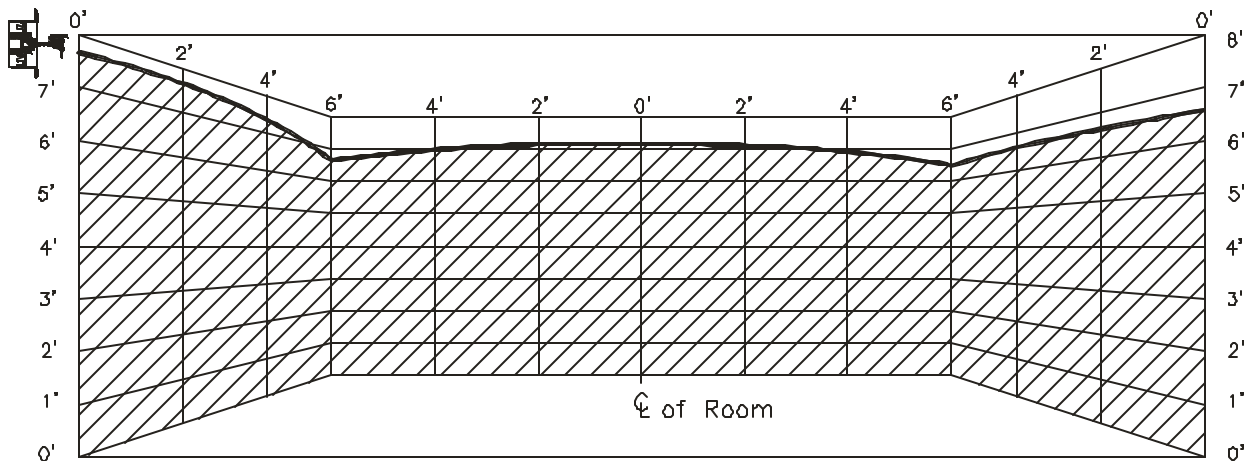
# F1 Res 40 HSW & F1 Res 40 Recessed HSW/F2 Wetting Patterns (cont.):



F1RES40\_HSW-14x14-4

NOMINAL WETTING PATTERN  
14ft.x14ft. COVERAGE AREA  
4"-6" DEFLECTOR TO CEILING DISTANCE

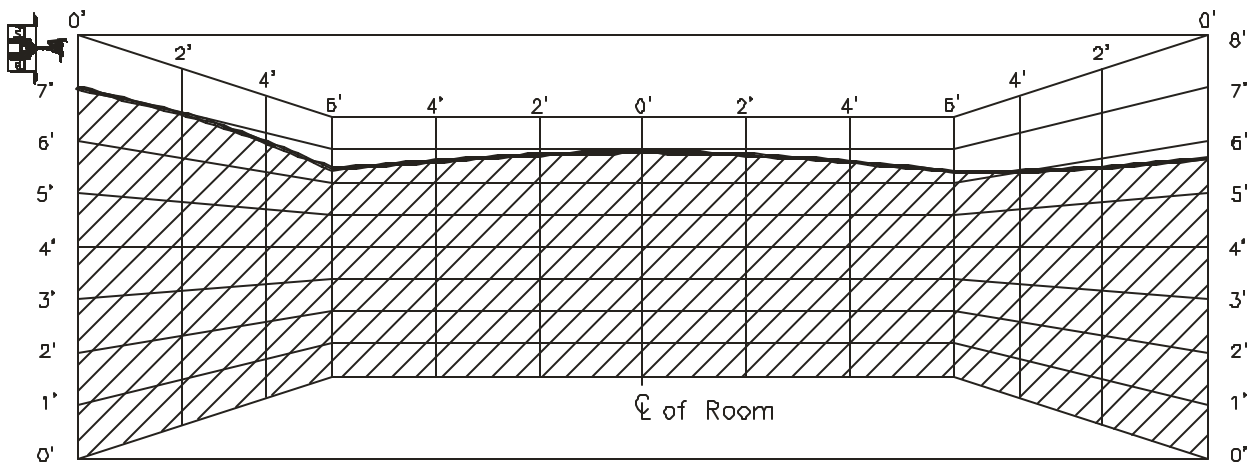
16 GPM



F1RES40\_HSW-12x12-4

NOMINAL WETTING PATTERN  
12ft.x12ft. COVERAGE AREA (Or less)  
4"-6" DEFLECTOR TO CEILING DISTANCE

13 GPM

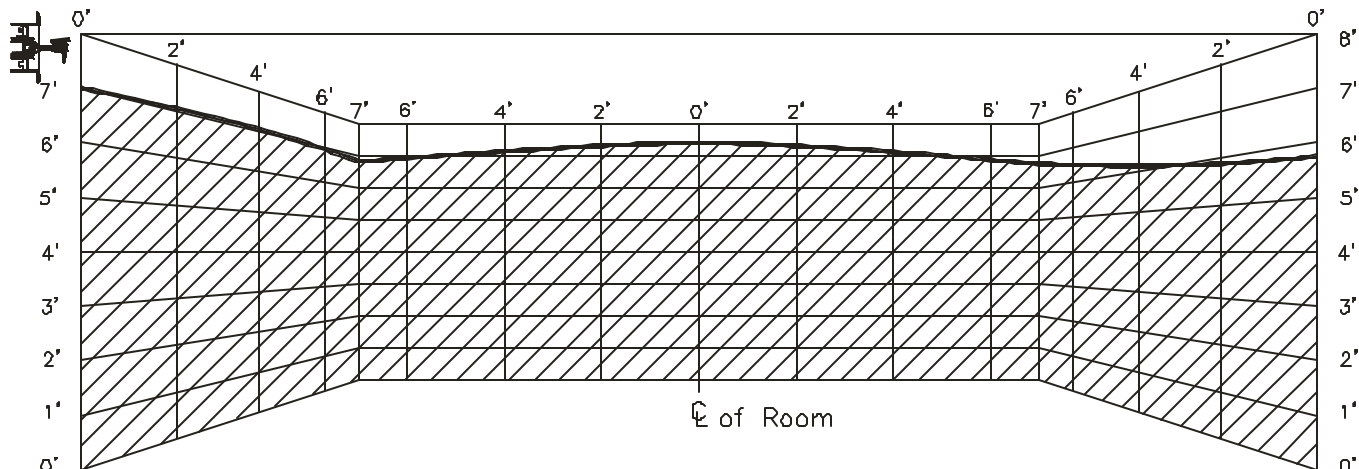


F1RES40\_HSW-12x12-6

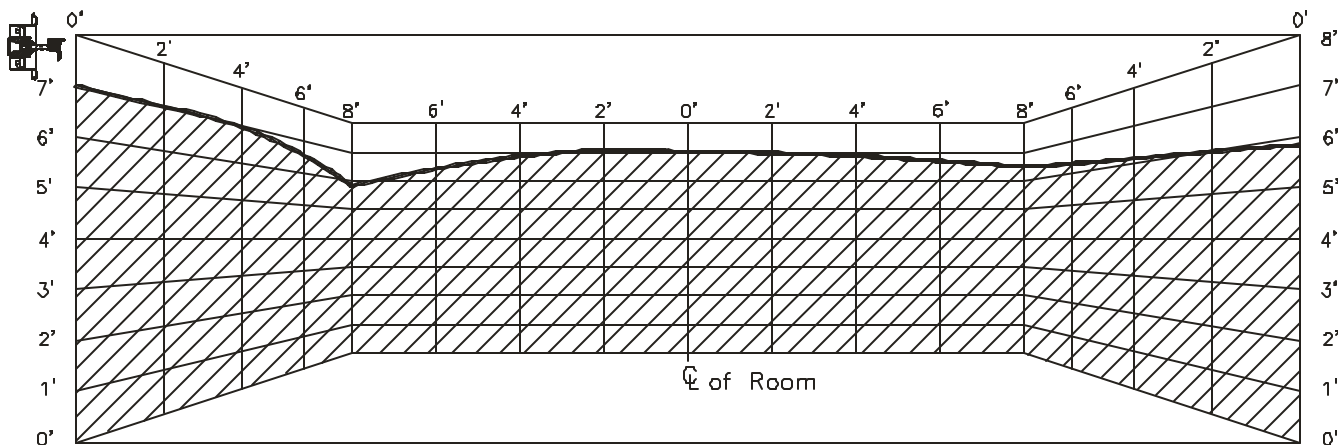
NOMINAL WETTING PATTERN  
12ft.x12ft. COVERAGE AREA (Or less)  
6"-12" DEFLECTOR TO CEILING DISTANCE

13 GPM

# F1 Res 40 HSW & F1 Res 40 Recessed HSW/F2 Wetting Patterns (cont.):



F1RES40\_HSW-14x14-6  
 NOMINAL WETTING PATTERN  
 14ft.x14ft. COVERAGE AREA  
 6"-12" DEFLECTOR TO CEILING DISTANCE 17 GPM



F1RES40\_HSW-16x16-6  
 NOMINAL WETTING PATTERN  
 16ft.x16ft. COVERAGE AREA  
 6"-12" DEFLECTOR TO CEILING DISTANCE 20 GPM

The equipment presented in this bulletin is to be installed in accordance with the latest pertinent Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances, when ever applicable.  
 Products manufactured and distributed by RELIABLE have been protecting life and property for over 80 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and for eign countries.

Manufactured by



The Reliable Automatic Sprinkler Co., Inc.

(800) 431-1588

Sales Offices

(800) 848-6051

Sales Fax

(914) 668-3470

Corporate Offices

www.reliablesprinkler.com

Internet Address



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