TC A1 - 7 - fluky
TC A5 - 1
TC A10 - 1, 2
TC A18 - 7, 8

~~TCA11 - flip 5 #6~~
Gear #6

BDP - A12 #6

BPP A10 - 1, 2, 4, 5, 6, 8

3, 4,

BDP A18 6, 8

BPP A11 4 positive

Test_30_West_05/15

Gear #6
1,2 - 1
3,4 - 2
5,6 - 3

Ignition - 2:30

Side A Front Door - 4:41

Side A Window - 6:30

Side C double door basement - 8:43

Water on fire -

water off - 11:41

water on - 13:08
water off - 13:13

Zero Span Test 31

Zeros w/ N_2 through 11:30

Span 11:58 on CO/CO_2

Span 13:03 on O_2

			lag time	
A - upper floor low	38:48		38:56	8s
B - upper flow high	37:47		37:48	10s
C - bottom of stairs	39:56	41:17		68s
	0:16s	1:126		70s

Test 31_West_51615

Ignition - 5:00
Video - 5:15

right when facing rear

A side door - Vent lintel in Basement (3-4min) - 7:53

A side window - Sidewindow (1min) - 9:01

C side doors - (Single Door R+Side) (30s-1min) - 9:45

Water on fire - (flame out of door + 15sec) 11:01

Water off - 13:30

Left C door 13:47

14:08 - mop up

both C doors open
Ignition 2 - 37:33

38:12 right C door closed
38:26 left C door closed

A side door 42:36

A side window 43:37

46:59 left side C door open

50:10 water on

50:40 water off

161 flow

52:23 right door open
55:30 water on

Gear 1 - 1&2
Gear 3 - 3&4

Test_32_West_051815

Ignition - 16:30
video - 17:40
(allow fire to be vent limited, temps drop)

Side A (Front Door) (3-4 min) - 20:40

Side A (Window) (+30 s) - ~~21:22~~ 21:27

Side C (Upper Level Double Doors) (w/prior) 21:12

Side C (lower level doors) (+30s or if fire upstairs) - 22:14

Water On - 22:24

Water off - 23:46

BDP AH2 2,3,5 → flipped

follows All that + is outflow

Test_33_West_052015 PPV test

Open Front Door - 5:30
Pull shroud - 6:30
Open Lower C Side Right - 7:30

Open Lower C Side Left - 8:30

Open Window - 9:30

Close All ~ 11:00

Open Front Door - 13:00
Pull Shroud - 14:00
Open Lower C Side Right - 15:00

Open Low C Side Left - 16:00

Open Window - 17:10

Close All ~ 18:30

Open Front Door - 21:00
Pull Shroud - 22:00
Open Lower C Right - 23:30
Open Lower C Left - 24:30

Open Window - 25:42

test over 27:00

Analyzer C = 9s
(High) Analyzer B = 11s
(Low) Analyze A = 10s

Test_34_West_52115

Ignition - 6:00
6:05 - visual
A side door (~3.5 min) - 9:30

A side window (~1.5 min) - 11:07
pump 11:30
C side lower doors (~30s) - } 11:45

Water on fire -

Water off - 12:45

Up C doors - 13:15

Test_35_West_52115

Ignition - 7:00

A side door - (~3.5 min) - 10:30 shroudup - 11:40

C side doors - (~1.5m) - 12:15

PPV fan - (~30s) (lift shroud) - 13:00 13:00

PPV fan off -

Interior Nozzle - (~30s - 60s) 13:54

Interior Nozzel off -

C side water (exterior attack) 14:28

(180gpm)

14:30

water off 16:19

upper C doors 17:00

Test_36_West_60915

Gear on ~~mannequin~~ dummy

#1 front of facepiece → TC_S_7
#2 back of facepiece → TC_S_8
#3 top of head ~~up~~ under hood → TC_S_13
#4 front of gear → TC_S_14

Yellow cable from roythius #14

interior stair - wide fog (120 gpm)
C doors - SS 180 gpm

Ignition - 3:00
Video - 3:25 video
vent limited → open A side door - 10:30

(30 - 60s) → flow interior nozzle - 12:30

(30 - 60s) → open C side doors and flow water - 13:24
stair off - 14:15
water off when darkened down - 15:28

Test_37_West_061015

Ignition - 5:49
video - (11:20:43)

open A side door (vent limited) - 12:00

flow interior nozzle (30s) - 12:30

open C side doors (30s) - 13:05

~~water on fire~~ -

interior nozzle off - 14:30

water on fire - 20:01

water off 20:56

Test 38 Head Forms

Blue hood w/ yellow helmet AV 3000 HT Channel 1 & 2
new Camera

White hood w/ Red helmet AV 3000 ~~HT~~ Channel 3 & 4
old Flux gauge #164751 Model# 16 - 0.25 - 5sb - 10 - 12 - 36 - 20679K
* Conv - 6120 *

2 TC's each #1 Front of face piece on surface (outside)
#2 Front of face piece on (inside) surface.

Rear door - top is #15 on 300' yellow cable (80")
bottom is #16 " " " " (1 foot up)

D side wall top is #17 on yellow cable (1 foot down)
bottom is #18 on yellow cable (1 foot up)

* TC_S_15 & 16 are pressures in structure basement *

Pretest Flows 100ft 1 3/4 Hose to Flowmeter 100ft to Metro 1 nozzle

	Eng	FRI Flowmeter
	130	125
Pump Pressure	125	120
50psi	197	185

Pressure with the Hydrant on intake 100 PSI

Change Configuration - Water feed into Rear TANK
Hydrant to Auto Fill TANK
1 3/4 - 50' to Flowmeter
" " to GATED Wye - Steady Flow to Monitor / 100' 1 3/4"
" " from Gated Wye to Nozzle

	Water	
	120	120
	Eng	FM
	185	186
CAFS	120	151

. 3% Concentration
. 5 CFM/gal Air valve

water pump - 5:50

Test_38_West_061315 CAFS 35

Open A side door & C basement doors to start

Ignition - 10:00
video -
Water on fire - 14:31

Water off - 14:55

Test 39_West_61315 Water SS 130 133 gpm

Ignition - 2:30

Video Confirm - 2:35

Water on Fire - 5:56

Water Off - 6:25

Test - 40 - West - 61415 CAFS, SS, 130 GPM, couches & pallets
A side, C side open

Ignition - 5:30

Video Confirm - 7:18 * DVR might be ahead 1s *

Water on fire - 7:59 } knock
Water off - 8:15

- letting come back

Water On - 10:47

Water off - 11:08

Water On 12:35 (from door)

Water off 12:40

Water on 12:50
Water off 12:55

On 13:10
Off 13:20

On
Off Ceiling 13:28
Off 13:46

~~[illegible]~~ letting come back attack w/ water

Water On - 21:55 } knock
off - 22:13

Water On - 23:57
Water Off - ~~24:13~~ 24:33 / 25:35

29:30 - off

Test_41_61415

A side door, C side doors, 130 GPM, couches & pallets

class A foam solution, SS, metro 1

Ignition - ~~[illegible]~~
17:30:08 video

Water on fire - 13:07 (13:09?) } 19s

Water off - 13:26

rekindle - 16:09

- change nozzle 1 3/8" ball valve, 130 GPM CAFS (.3% solution) open butt

water on fire - 16:31 } 20s

water off - 16:52

- rekindle - 7/8" slug @ ~~[illegible]~~ 120 GPM CAFS - 20:23

water on - 20:45 } 16s

water off - 21:01

rekindle - hit to protect structure

water on - 22:26 } 19s

water off 22:45

TC

TC Manikin - w/ dummy

1 TC Facepiece ¾ Front
2 TC Facepiece Rear
3 TC Top of Head
4 TC Gear Front of Dummy

- w/ 2 headforms

1 Outside
2 Inside
3 Outside
4 Inside

facing headforms
left is - 3, 4 (old)
right is - 1, 2 (new)

Test_42_West_6/6/15

All vents closed
piercing nozzle -

DAQ 3 sec ahead of video

Ignition - 6:30

Water on fire (after decay) - 10:19
Water off - 11:00
Open A side door - 11:31

Open C side doors (upstairs) - 12:10

Open A side window -

open lower C doors - 17:38 - 17:40

A window closed 19:53

water on fire - 20:23
water off - 20:40
} ~280 GPM

Test_43_West_61715

A side door OPEN
C side basement

Ignition – 5:00

couches & pallets

-120 gpm-

Water on Fire – 8:08
Water off – 8:33

SS @ 120 gpm
followed by
SS @ 280 gpm

- 280 gpm -

Rekindle @ – 13:03 / 13:15

* look @ wind data

Water on fire – 13:31
Water off – 13:50

rekindle – 16:22
narrow fog / 280
water on fire – 16:41

water off – 17,00
narrow fog / 120gpm
~~rekindles~~
rekindle – 22:17
water on – 22:23
water off – 23:02

water on fire 24:04 – Straight Stream
off 24:42

Check ananlyer B
heat flux 3 vertical

Test_44_West_61815

90321 ~~[illegible]~~ - HF
179081 ~~[illegible]~~ - RAD

DAQ
#16 mod 11
#17

Gear Outside - TC_S_7
Gear Inside - TC_S_8

Facepiece Outside - TC_S_13
Facepiece Inside - TC_S_14

Solid TCs D side wall in
TC A15 1 & 2
↳ 1 is bottom
2 is top
solid TCs A side door
↳ TCA153 bottom
BOP_A16_1 top

Wide Fog, Metro 1, 130gpm
Ignition - 2:30

Critical Heat Flux of 15-20

Water On Interior 4:05

~~Water off Interior~~

Water on Exterior - 5:45

Water off Exterior - 6:48

Water off interior - 7:32

- prior - 1.25, 2.5, 5.2375

* From Test 45 and on gas analyzers output 5V instead of mA like all prior 2015 gas outputs *

Test_45_West_70915

Gear Outside → TC_S_7
Gear Inside → TC_S_8
Facepiece Outside → TC_S_13
Facepiece Inside → TC_S_14

Aside & Cside basement doors open
(1st)
Ignition - 2:30

Helmet Outside → TC_S_5
Helmet Inside → TC_S_6

Wide Fog, Metro, 150gpm (~200)
Water on Interior (flames or 50kw/m²) -6:52

HF (90321) #16 Mod II
Rad (179081) #17 Mod II

~~Water on Interior~~

Water Off Interior - 8:22

~~Water off~~

(Note in lab new O_2 zero is 17.5)

Water On Ext - 9:37
Water off Ext - 9:42

Water on - 10:33
Water off - 10:54

Switch to SS interior

water on Interior - 21:37
water off interior - 24:21

Water on Ext - 22:49
Water off Ext - ~~[illegible]~~ 24:05

C Side 2nd Story - 25:42

Test_46_West_071015

All closed to start

Ignition - 2:30

Open A side door - 6:20
(~30s)

Open single C side basement door (facing doors left door) - 7:00

Water on fire (SS ~ 150 gpm) - 8:22

Water off - 9:22

C door uppers open - 9:50

C basement left - 11:06

Tests 47 & 48

Gear 1&2 (pos 1) outside = 1 inside = 2
3&4 (pos 2) 3 4
5&6 (pos 3) 5 6
7&8 (box) 7 8 + RH sensor

Headforms looking ~~out~~ up the stairs

RHS outside helmet (1)
inside helmet (2)
outside mask (3)
inside mask (4)

LHS outside helmet (5)
inside helmet (6)
outside mask (7)
outside mask (8)

Test 48

HF & Rad @ A2 - HF = 179084
Rad = 179083

A3 - HF = 146592
Rad = 179082

A4 - HF = 90321
Rad = 179081

lag - 16 s

Analyzer C - A1
Analyzer D - A3

lag - 12s

off, indoors, centred

140 gpm, SS

Test_47_ West_71015

No Gear Samples

Ignition - 4:00

Open A side door - 8:10
Open A side window - 8:35
Open C side door + water on fire - 9:30

Water off - 10:00

C upper open 11:17

Test - 48 - West - 71515

180 - 185 gpm

Ignition - 3:30

Open A side door - 6:50

Open A side window - 7:15

C side doors - 7:50

Water on fire - 9:00 (02?)

Water off - 9:32

C side Upstairs - 10:38 (right)
10:50 (left) } as seen from data trailer

100

Test_49_East_71515

Ignition - 3:30

Sprinkler On - 15:25

Sprinkler off

Rear door - 17:25

Water on

Water off

Test_50_West_71615

primary - 180 gpm, 55

Ignition - 4:00

Open A side door - 7:30

Open A side window - 8:00

Open C side doors (basement) - 8:45

Open roof vent - 10:00 - 10:05

Open C side doors (upstairs) - 12:28

water on fire - 10:48

water off - 11:24

Test_51_East_7/6/15

Ignition - 2:00

Sprinkler On - 3:05

~~Breakdown~~
Water off - 5:07

C doors @ 6:00 min

Test 52 - East - 80215

angle - first hole

weather
green A side
yellow C side

Cold Flow Test
All doors open at start, fan 72" from A7 BDPs, blowing A to C

Fan on @ 100% 50% - 7:00

Fan on @ 100% - 8:00

Close A8 door - 9:02

Close A9 door / open A8 - 10:02

~~Open~~ - A9/A8 Closed - 11:00

Fan off / doors open 12:00

Fan on 100% - 13:00

Close A8 - 14:02

Close A9/open A8 - 15:03

A9/A8 - closed - 16:01

test over } 17:00
fan off

104

Test_53_East_80215

weather same as 52
angle - first hole

Cold Flow
All vents open, flow pulling through A from C @ A7

Fan on 50% - 2:00
Fan on 100% - 3:00

Close A8 - 4:00
Close A9 / open A8 - 5:04
Close A8 / A9 - 6:00

Open A8 / A9 - 7:00
~~Close A9 / open A8~~

Close A8 - 8:00
Close A9 / open A8 - 9:05
Close A8 - 10:00

Fan off - 11:00

Over 11:30

Test 54 - East - 80315

weather same as 51 & 52
angle first hole

Cold Flow, PPV
All vents open, flow initially blowing from C to A
Fan 72" from C side of BPPs, centered between A8 & A9

Fan on 100% - 2:00

Close A door - 3:00

Open A door - 4:00

Close A door - 5:00

Fan off - 6:00

Test off - 6:30

Test 55 East - 80315

weather same as prior

Cold Flow, PPV
All vent open
Fan - front face at BDPs A8, A9, canted, angle (flat) 3rd hole
Flow exhausting from A to C

Fan on - 2:04

A door closed - 3:00

A door open - 4:00

A door closed - 5:00

Fan off - 6:00

Test over 6:30

Test 56 & 57

3 Gear samples - TC_S1 - TC_S-6 ; ~~TC_7~~ TC_S_7 - Radio Mic
Helmet & Facepiece - same as 47 & 48 TC_S-8 - Cable in gear
↳ TC_G_1 - TC_G-8

Analyzers A, B, C
- D not used for these tests -

Gas Anaylzer In line Filter

Swagelok 1/4" filter
298459001 7 micron

Part #
SS-4 FW-7
$70

108 Test_56_West_80615

| 6:20 C door popped open ||

** DVR 33s behind computer DFA time **

Ignition - 3:30

Open A side door - 7:20

(+30) "close A door" - (control) - 8:00
↳ open 14"

Open Basement C door + water on fire - 8:45
water off - 9:40

(after knock)(15s) open A ~~[illegible]~~ door - 9:58

(15s) open A window - 10:15

(15s) open C 1st floor doors - 11:47, 11:51

Test 57_West_80615

Ignition - 6:00

Open A side door - 9:30

Control A door - 10:00

Open C basement - 10:45

Water on fire - 14:03

Water off - 15:17

Open A door - 16:16

Open window - <17:30

Open C second story - 19:26

Test_58_East_80615

- A8 door open
- ~~3~~ SS attack from A8 door

Ignition - 13:30

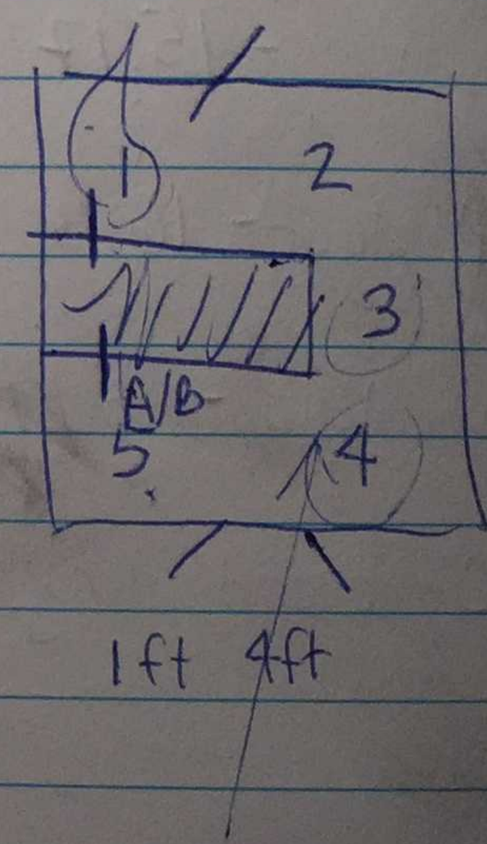
Water on fire - 18:23

Water off - 19:23

~~Rear attack~~ Open rear door - 21:45

Mop up 22:45

GAS			
	A	Low	A5
	B	High	A5
	C	Low	A1
	D	High	A1



* Single Story Lag times *

Tests 58 (Anaylzer B on 57)

A - 16s
B - 24s (23s) / new pump: 10s
C - 13s
D - 12s

B @ 57 - (High) - 23s

112

Test_59_East_80815

C side door always open

5' x 4' window
sill - 17"
soffit - 22½" below ceiling
1st BDP 8" down from soffit

150 gpm

Ignition - 3:00

Water on fire - 8:18

Water off - 9:18

1:45 first smoke @ C post ignition

inside rear ~11

Heat Flux & Radiometer for Test_60_West - Hose Tests

179084 - radiometer 11350.74 (100 kW/m²)
~~[illegible]~~ - heat flux - ~~[illegible]~~ (~~[illegible]~~ kW/m²)
179083 6016.85 50

Test_60_West_~~[illegible]~~ 80915

TC_G_1 - static (120 psi ~~gpm~~)
TC_G_2 - air (100 psi)
TC_G_3 - flowing (~~[illegible]~~0 gpm)

Ignition - 2:30

Air Hose break -
Static hose break -
Flowing hose break -
} 5:46 ± 2 secs

* 5:14 82 psi air

5:46 burst

Water on fire -

114

Test_61_East_80915

-150 gpm -

C window open
A7 = 3 pressure taps

* DAQ 3s ahead DVR

Ignition - 4:30

Water on fire (wide fog) - 10:33

Water off - 10:49
(gun off - started again)
Water on - (narrow fog)

22:17 - final suppression

call for water when C&D O_2 ~ 8-10%

Test_62_West_81015

Ignition - 2:00

Hose break - 5:57 (air first) / air & static broke flowing still good
7:21 - static off

Water on fire -

TC_G_1 - static
TC_G_2 - air
TC_G_3 - flow
TC_G_4 - gear outside
TC_G_5 - gear inside

rad & HF same as 60

test section 4th from C side

Go Pros - 3, 4, 7, 9

Test_63_East_81015 C window open - converts to door

Ignition - 2:00
2:05 visual

Remove window/door partition - 7:05

Water on fire - 9:08 wide fog

Water off - 10:06

Water on - (wide fog) - 16:22

Water off - 17:21

Water on (SS) - 18:37 (bouncing off ceiling (CD - AB)

Water off 19:07

Low A5 - A
High A5 B
Low A1 C
High A1 D

water on 19:37 (BC - DA)

water off 19:53

water on 20:11 - mopup suppression

rear door open - 21:20

Goto - 11, 8

Test_64_West_81215

Ignition – 3:30

Open C basement – 7:00

Water on fire 8:11

Water off – 8:37 (?)

A door – 8:39
A window –

C doors upstairs – 8:54

A basement 13:48

Yellow wall
- TC_G_1 – out helmet
- G_2 – in helmet
- G_3 – out face
- G_4 – in face

Red room Middle
- G_5 out helmet
- G_6 in helmet
- G_7 out face
- G_8 in face

S_1 – 1 out
S_2 1 in
S_3 2 out
S_4 2 in
S_5 3 out
S_6 3 in
S_7 box out (1)
S_8 box in (1)

GoPros – 3, 4, 9

Test_65_East_81315

PPV test, A8 door (C side) open, A7 door (A side) closed, fan 6' from ℄ doors centered on AB

start fan - 2:30
open A door full - 3:30
open A door 14 inches - 4:30
~~open~~ open A door 7 inches - 5:30 (5:33) ~ 10 inches
close door A door - 6:30
open A door full - 7:30
open A door 14 inches - 8:30
open A door 7 inches - 9:30 (~10 inch)
closed A door - 10:30

~~[illegible]~~

open full - 11:30

crank fan settings back ~13:00 ~ 70%

Close door - 14:30
open full - 15:30
14" 16:30
7" 17:30
over e 18:30 close door -

fan off - 18:38

over - 19 min

Test_66_East_81315 ~~add~~ A8 (C side) door open

Ignition - 5:30 GoPro 3-4
Flashover -
PPV fan on (70%) - 10:00
PPV fan off - 10:47 } If flames out door - skip
rear door open - 12:03
wide fog on - 11:03

wide fog off - 12:40

~~SS~~ on - 13:30 narrow fog } towards B wall
14:33 narrow fog off
~~SS on/off~~

SS on - 15:16 off ceiling towards B
SS off - 16:02

SS on 16:32 towards D wall ceilng
17:02 mop-up

17:16 water off

120

Test - 67 - West - 101015

In line w/ TCs & pressure

Gas C D basement

C = low — lag = 14s

D = high — lag = 10s

- sprinkler test
- fuel - 2 couches, carpet & floor below couches only
- all vents closed

ignition - 2:00

sprinkler - 3:43 (17 gpm -
- 6:30 (25 gpm - 20 psi)

~~60 any other water~~

C side door - 10:00
(A6)

sprinkler off - 12:00

A side door - 13:15

C side door - 17:00
(A5)

water on 19:29

HF1 (1) - #180321 - 1859

#180322 - 1842

East

Test_68_~~[illegible]~~_101115

trash can fire

TCs on windows
1-4 inside
5-8 outside

121

A8 & A9 arrays
↓ block 1/4"
↘ window (Inse) 3/32"

Bullard T4 - both
Bullard T3 - window
PAL 159 - block

Ignition - 2:00

water can @ 9:00

Test_69_East_101115

- same setup as test 68 except fuel load is stuffed chair

Ignition - 2:00

~5:00 - interior pane broke
~9:00 - top left block broke

Water -

Test - 70 - West - 101215

Hose testing - monitor nozzle

| metro | SS
1" SB |

gpm = 190 - 180

- near target - 6ft ; far target - 12 ft
- C doors open (basement) C doors closed (upstairs e start)

- closed, SS near - 1:00
open A13 (1) SS near - 2:03
off - 2:45
(2) SS near - 3:15
off - 4:00
(3) SS near - 4:35
off - 5:20
(1) SS far - 7:00 - A13 closed - 8:00 - A13 open
off - 8:45
(2) SS far - 9:15
off - 10:00
(3) SS far - 10:30
off - 11:15
- closed, SB near - 14:00
open A13 (1) SB near - 15:00
off 15:45
(2) SB near - 16:15
off 17:00
(3) SB near - 17.30
off 18:15
(1) SB far - 19:30 A13 closed ; 20:30 A13 open
off - 21:15
(2) SB far - 21:45
off 22:30
(3) SB far - 23:00
off 23:45

Test_71_East_101315

Ignition - 2:00

water can -

- TCs same as 68 & 69
- trash can fire
- A8 single pane } plain glass
- A9 double pane }

Bullard T4 - both
Bullard T3 A9
ISG A8

Test_72_East_101315

Ignition ~ 2:00

- setup same as 71; fuel = sofa chair

water stream to A8 - 14:21
A9 - [illegible]

Test - 73 - Burn Building - 101415

SB - 1 3/8" fip
~ 400 - 500 gpm

log 3: start - 17:18:21
water on - 17:26:45 } 60 ft
off - 17:28:13
on - 17:39:41 } 30 ft
off - 17:41:09
} 2 story

log 4: water on - 17:57:50 } 30 ft
off 17:59:00
on - 18:06:49 } 60 ft
off - 18:08:38
} 3rd story

Test_74_West_101515

Window always open
SB 15/16" - 190 gpm

Ignition - 3:00

A side door e vent limited - 6:30

+30s - C side upstairs ~ 7:30

C side basement - 8:30

water on fire - 9:06

water off - 9:38

Test_75_West_101515

Ignition - 5:00
open A door - 8:10
wide fog - 8:45
off - 9:09

SS on - 10:45 (?) or 9:45
SS off - 12:20

Cside A13 -
e side A14 -

Test_76_East_101715

#s 179082 HF A3
146592 RAD A3

- same base setup as 68, 69, 71, 72
- radiometer added C side wall between windows on placed at top TC
- heat flux added C side wall between windows placed at bottom TC
- fuel load couch

Ignition – 14:30

widow break –

T3 - 7
T4 - 8
15G - 9
double pane – A9
single – A8

128 | Test_77_West_101715

- 3 couches downstairs
- 2 couches upstairs kitchen
- target chairs A7, A19
- A12 window open
- SS attacks

Ignition Basement - 25:00
First Floor -

vent limited A side door - 28:30

basement C side doors - ~~30:3~~ 30:30

roof vent - 30:03

C side upstairs doors - 34:15

core attack

water on fire C side - 32:03
off - 32:35

water on fire A side window -

water on fog : 37:40
37:53

attack 1st : 38:05

2nd : 39:51
41:50