



Report No. 12158  
Date: 05/30/07

# Fuel Reduction Pilot Program

CONDUCTED AT THE

## JUSTICE COMPLEX

70 Hunter St, Woodbury, NJ

FOR

## Gloucester County

TEST RESULTS  
FOR A  
HOT-WATER BOILER  
AND  
DOMESTIC WATER HEATERS

A Confidential Report  
*Prepared by*  
Intellidyne LLC



90 Pratt Oval  
 Glen Cove, NY 11542  
 Phone: 516-676-0777  
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# Test Report

Report No. 12158-1

Date: 05/30/07

**Customer:**

Gloucester County  
 70 Hunter Street  
 Woodbury, New Jersey, 08096  
 Contact: William Skill, Director Buildings and Grounds

**Test Site Location:**

Justice Complex  
 70 Hunter Street  
 Woodbury, New Jersey, 08096

Test Type:  HEATING     AIR CONDITIONING     REFRIGERATION     OTHER: \_\_\_\_\_  
 Product Tested:  HW     LCH     LCS     CHW     CHS     AC     CAC     RU     OTHER: \_\_\_\_\_

**Type of Equipment:**

Manufacturer: Weil McLain Hydronic Boiler  
 Model: 1488  
 Capacity / SetPt: 4,474,000 Btu Input / 180° F  
 Fuel Type: Natural Gas  
 Application: Space Heating  
 Area Served: Jail and Courthouse  
 Misc.

Test Start Date: 04/05/07  
 Test End Date: 04/18/07  
 No. of Days in Test: 14

**BURNER RUN-TIME:**  in HRS.     in MIN.  
 IntelliCon ON-DAYS: 39:01:21  
 IntelliCon OFF-DAYS: 44:56:40    RUN-TIME was reduced by: 13.18%

**BURNER USAGE FACTOR:**  
 IntelliCon On-Days: 23%  
 IntelliCon Off-Days: 27%

**HEATING DEGREE-DAYS (FOR TEST PERIOD)**  
 IntelliCon ON-DAYS: 151    It was 1.1% Warmer on the On-Days.  
 IntelliCon OFF-DAYS: 153  
 Total Degree-Days: 303

**USAGE PER DEGREE-DAY**  
 ON-DAYS: 0:15:31  
 OFF-DAYS: 0:17:41

**SOLAR LOAD COMPENSATION: (Lumens/Sq. Ft.)**  
 IntelliCon ON-DAYS: 743809  
 IntelliCon OFF-DAYS: 701643    It was 6.01% Sunnier on the On-Days.

**Individual Runtimes**

	Boiler #1	Boiler #2
<b>ON-Day Runtime</b>	211:58:02	156:20:27
<b>Cycles</b>	403	441
<b>OFF-Day Runtime</b>	230:40:26	181:38:04
<b>Cycles</b>	521	659

**BURNER CYCLING REDUCTION:**  
 IntelliCon ON-DAYS: 587  
 IntelliCon OFF-DAYS: 729    Cycling was reduced by: 19.5%

**Adj. Savings = 12.24%**

**COMMENTS:** Actual test dates were from 3/17/07 through 4/23/04. However, during that time the Boiler start and stop times were inconsistent. The only consistent times were for the 4/5/07 through 4/18/07 period where boiler # 2 was operational 24 hrs per day. However during the entire test, Boiler # 1 only ran on 3/27/07 for 3 hours 27.5 minutes. Savings are adjusted for the warmer "On-Days". Solar information is provided for informational purposes only.



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# Test Report

Report No. 12158-2

Date: 05/30/07

**Customer:**

Gloucester County  
 70 Hunter Street  
 Woodbury, New Jersey, 08096  
 Contact: William Skill, Director Buildings and Grounds

**Test Site Location:**

Justice Complex  
 70 Hunter Street  
 Woodbury, New Jersey, 08096

Test Type:  HEATING     AIR CONDITIONING     REFRIGERATION     OTHER: \_\_\_\_\_  
 Product Tested:  HW     LCH     LCS     CHW     CHS     AC     CAC     RU     OTHER: \_\_\_\_\_

**Type of Equipment:**

Manufacturer: Bradford White Domestic Hot Water Heater  
 Model: D80T1993N  
 Capacity / SetPt: 199,000 Btu Input / 160°F  
 Fuel Type: Natural Gas  
 Application: Domestic Hot Water  
 Area Served: Jail and Courthouse  
 Misc.

Test Start Date: 03/17/07  
 Test End Date: 04/23/07  
 No. of Days in Test: 38

**BURNER RUN-TIME:**

in HRS.     in MIN.

IntelliCon ON-DAYS: 336:39:37

IntelliCon OFF-DAYS: 378:29:00

RUN-TIME was reduced by: 11.05%

**BURNER USAGE FACTOR:**

IntelliCon On-Days: 37%

IntelliCon Off-Days: 42%

**BURNER CYCLING REDUCTION:**

IntelliCon ON-DAYS: 1971

IntelliCon OFF-DAYS: 3220

Cycling was reduced by: 38.8%

**Individual Runtimes**

ON-Day Runtime Cycles	Boiler #1	Boiler #2
	160:32:38	176:06:59
	972	999

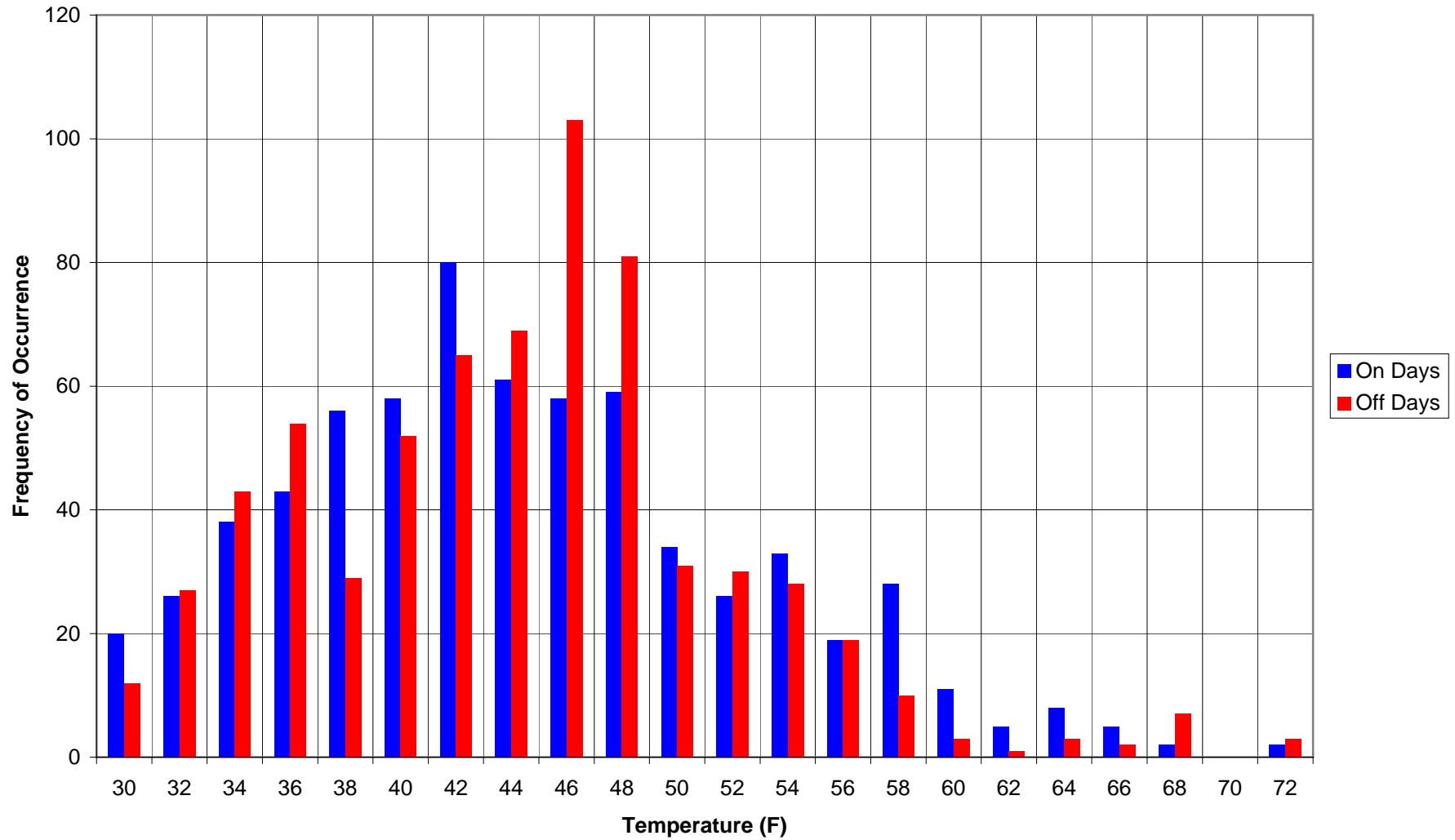
OFF-Day Runtime Cycles	Boiler #1	Boiler #2
	179:30:45	198:58:15
	1470	1750

**Savings = 11.05%**

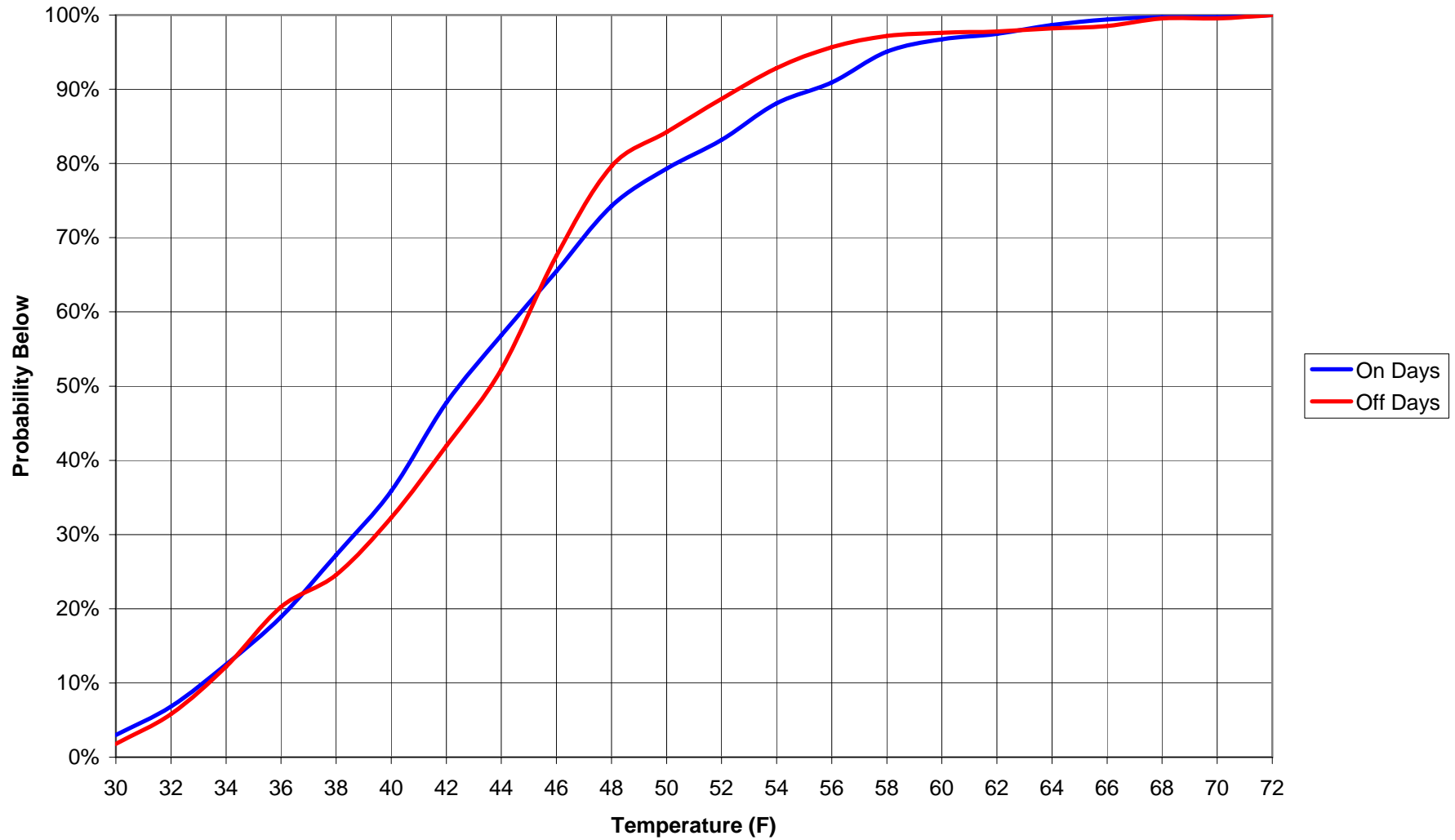
COMMENTS:

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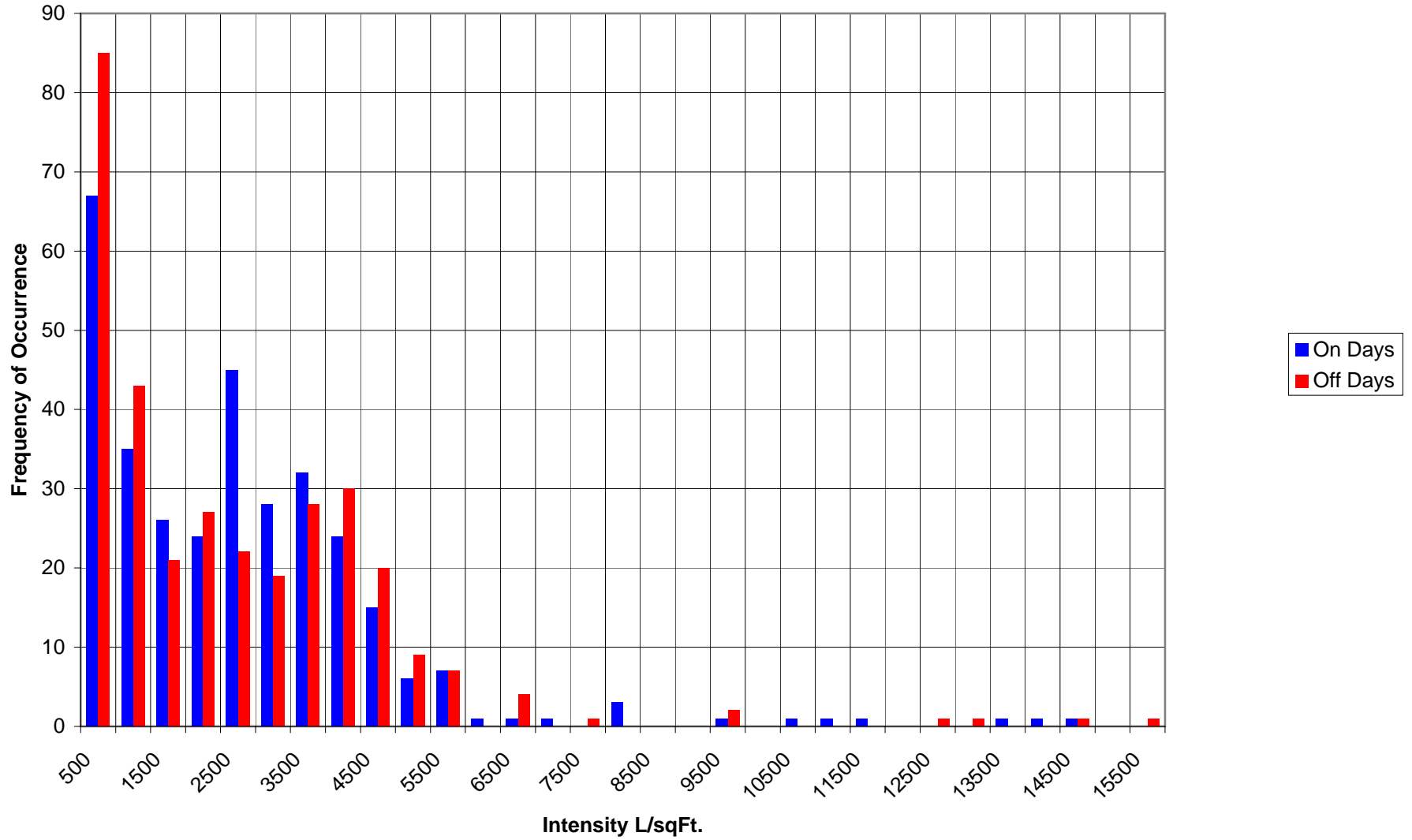
**Gloucester County - Justice Complex**  
**Outside Air Temp Histogram (04/05/07 - 4/18/07)**



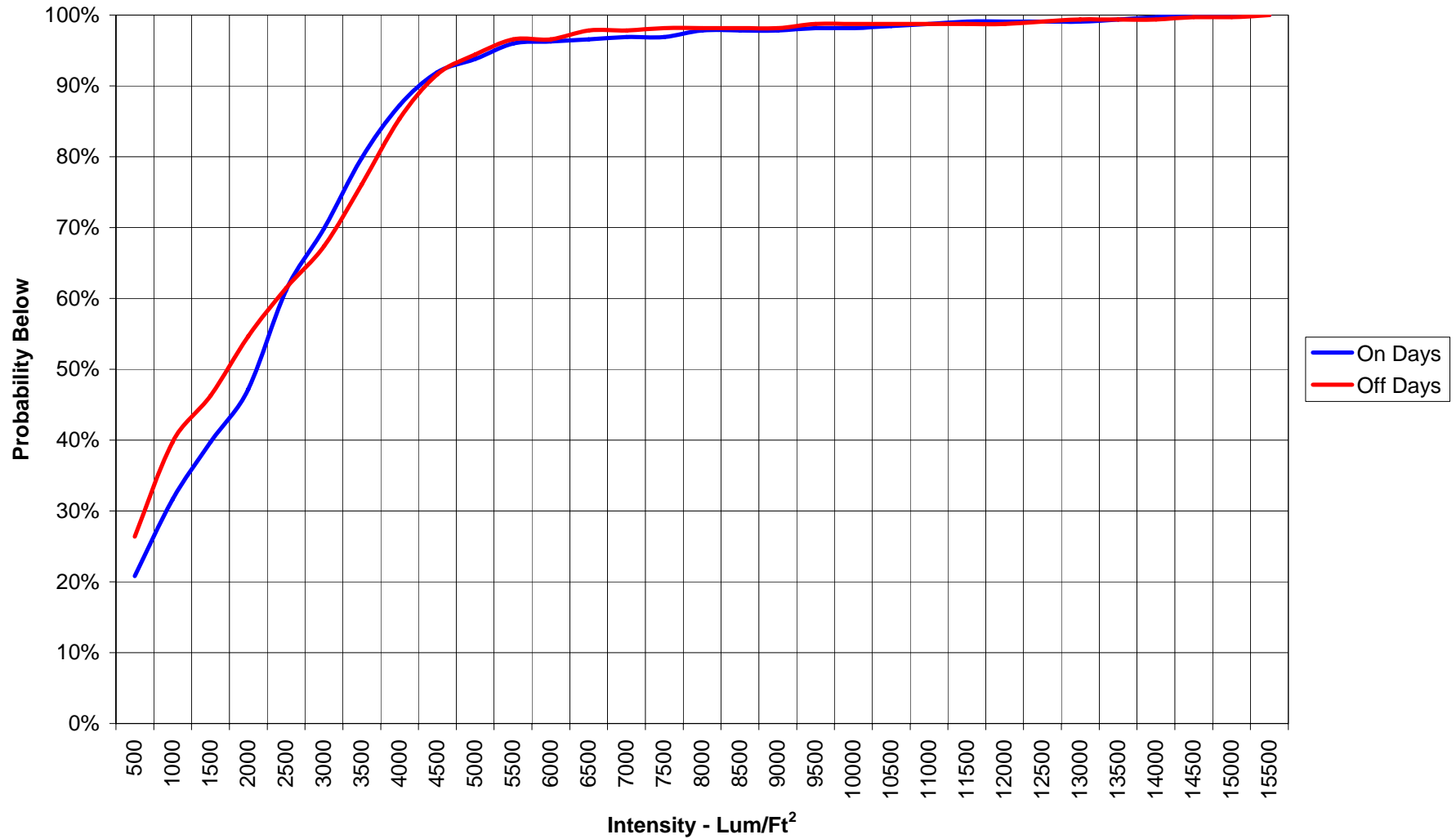
**Gloucester County - Justice Complex  
OAT Temperature Probabilities (04/05/07 - 4/18/07)**



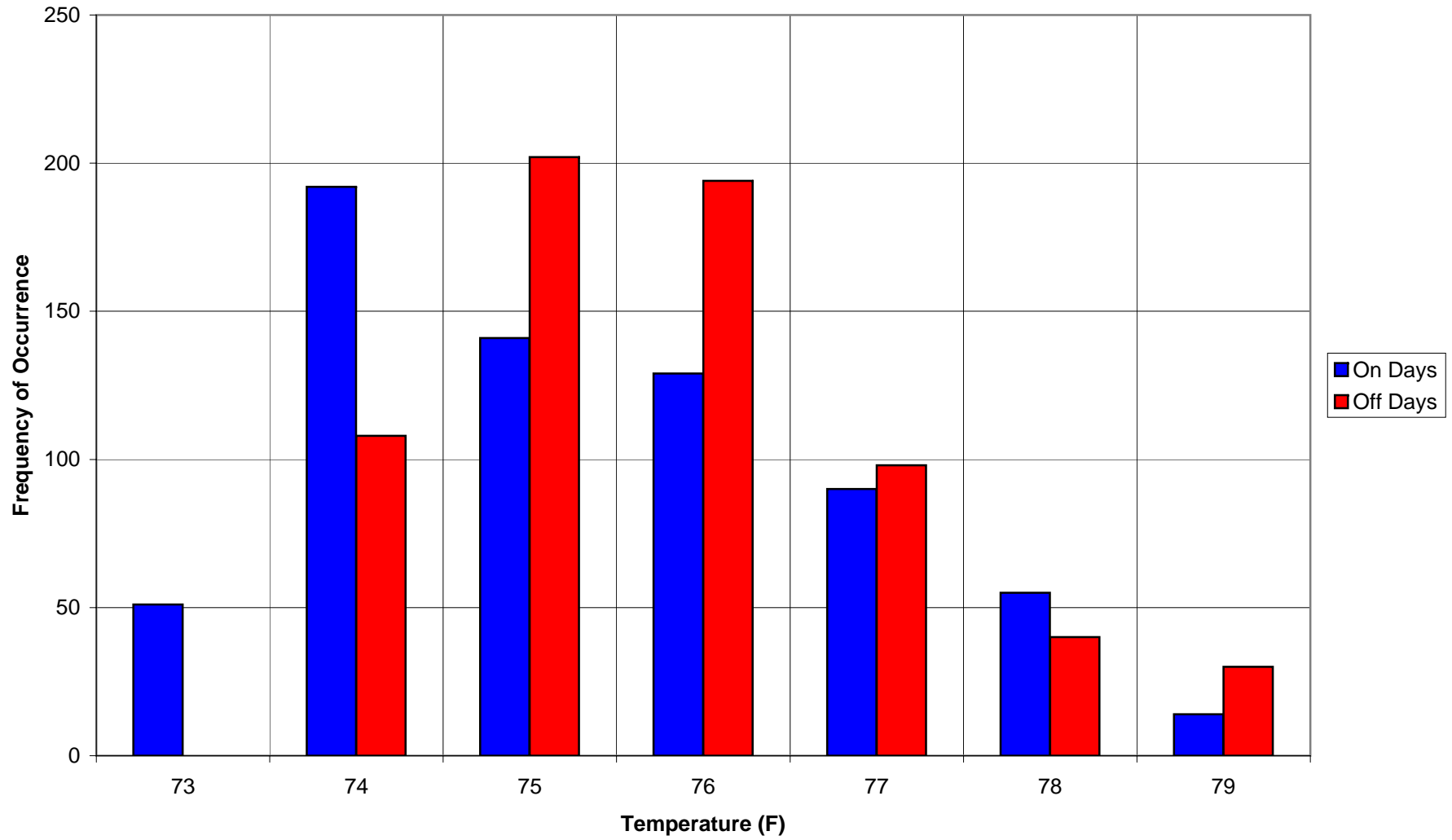
**Gloucester County - Justice Complex  
Solar Influence Histogram (04/05/07 - 4/18/07)**



**Gloucester County - Justice Complex**  
**Solar Influence Probabilities (04/05/07 - 4/18/07)**

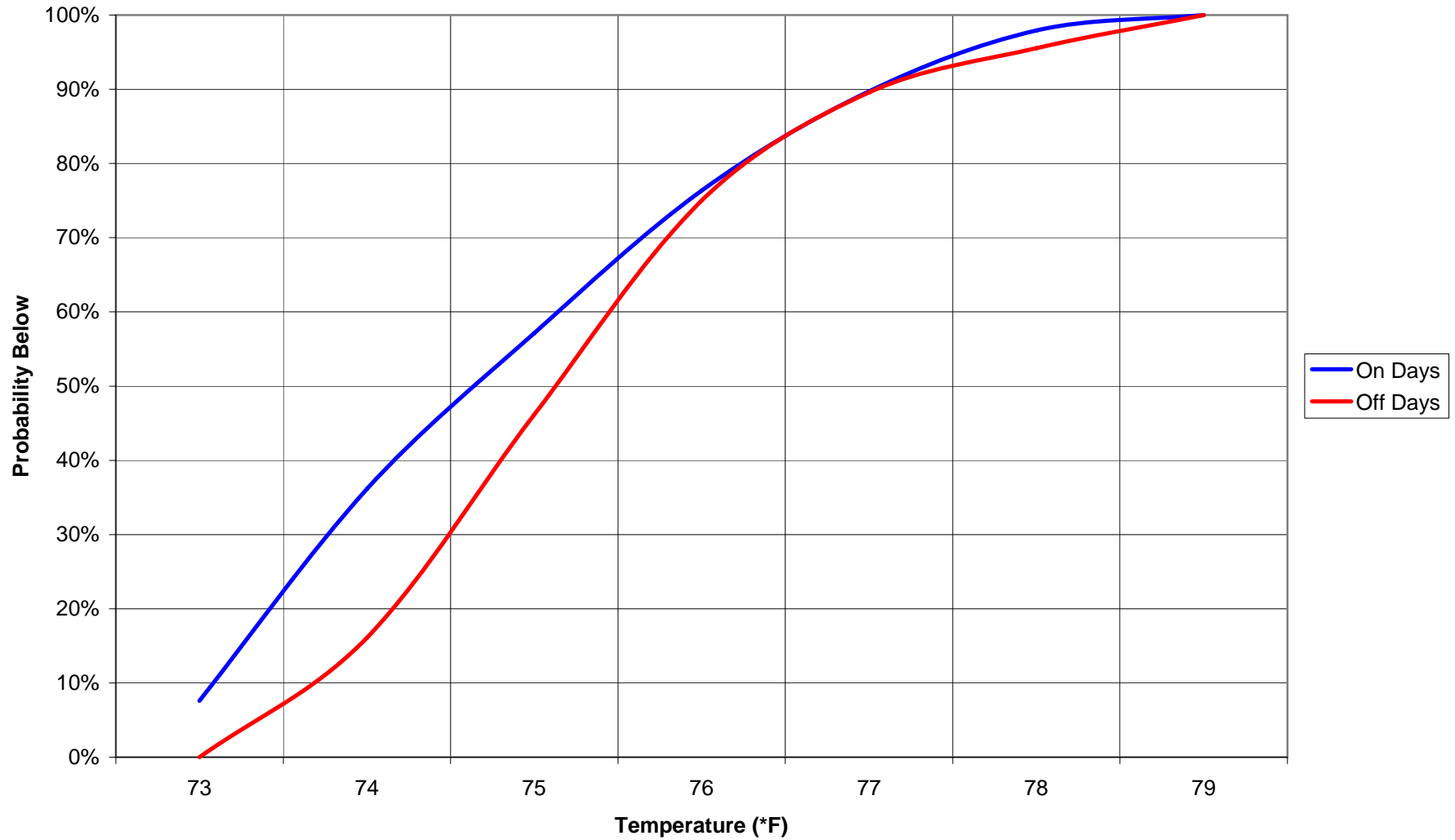


**Gloucester County - Justice Complex  
Space Temperature Histogram (4/5/07 - 4/18/07)**

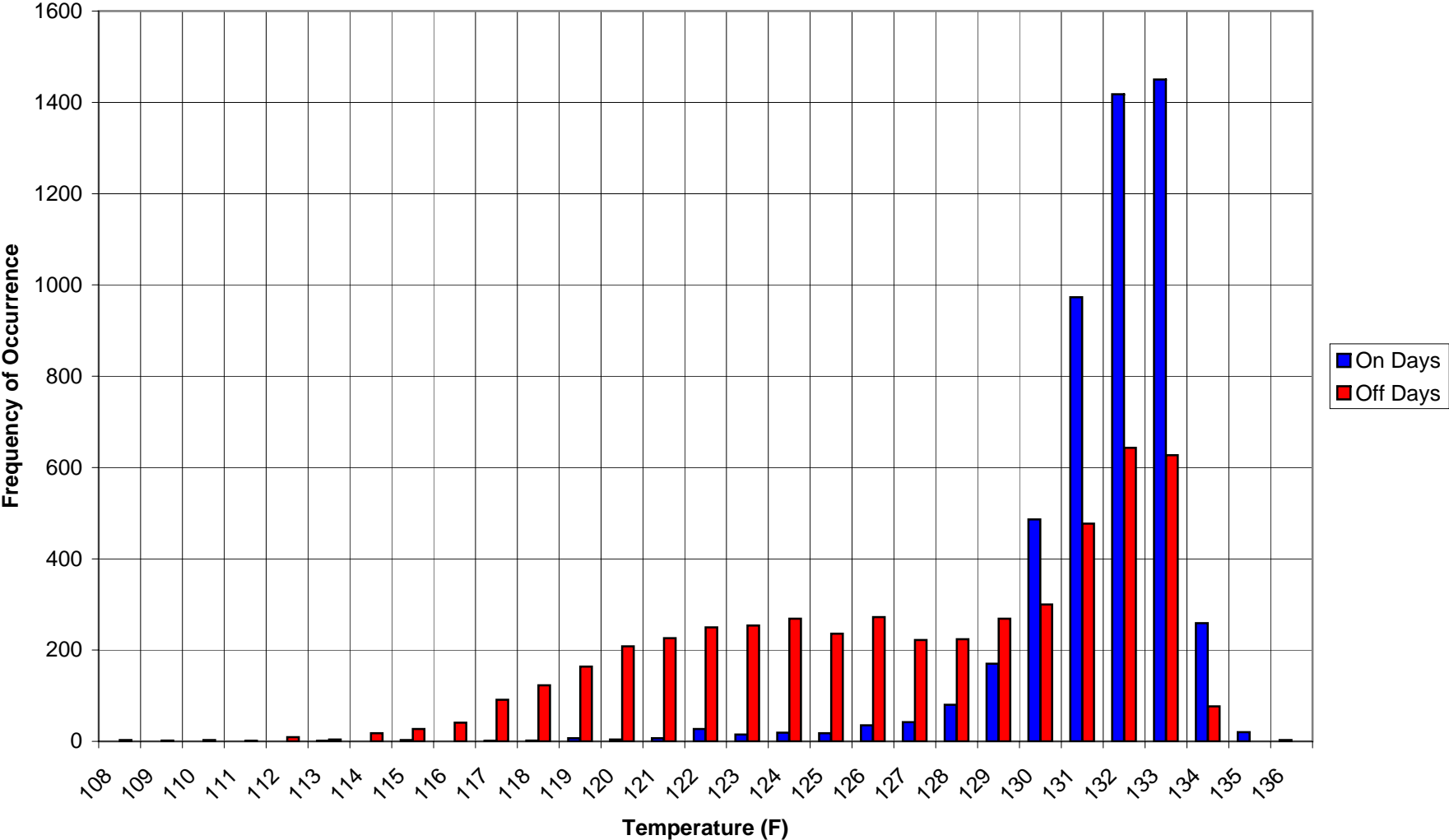




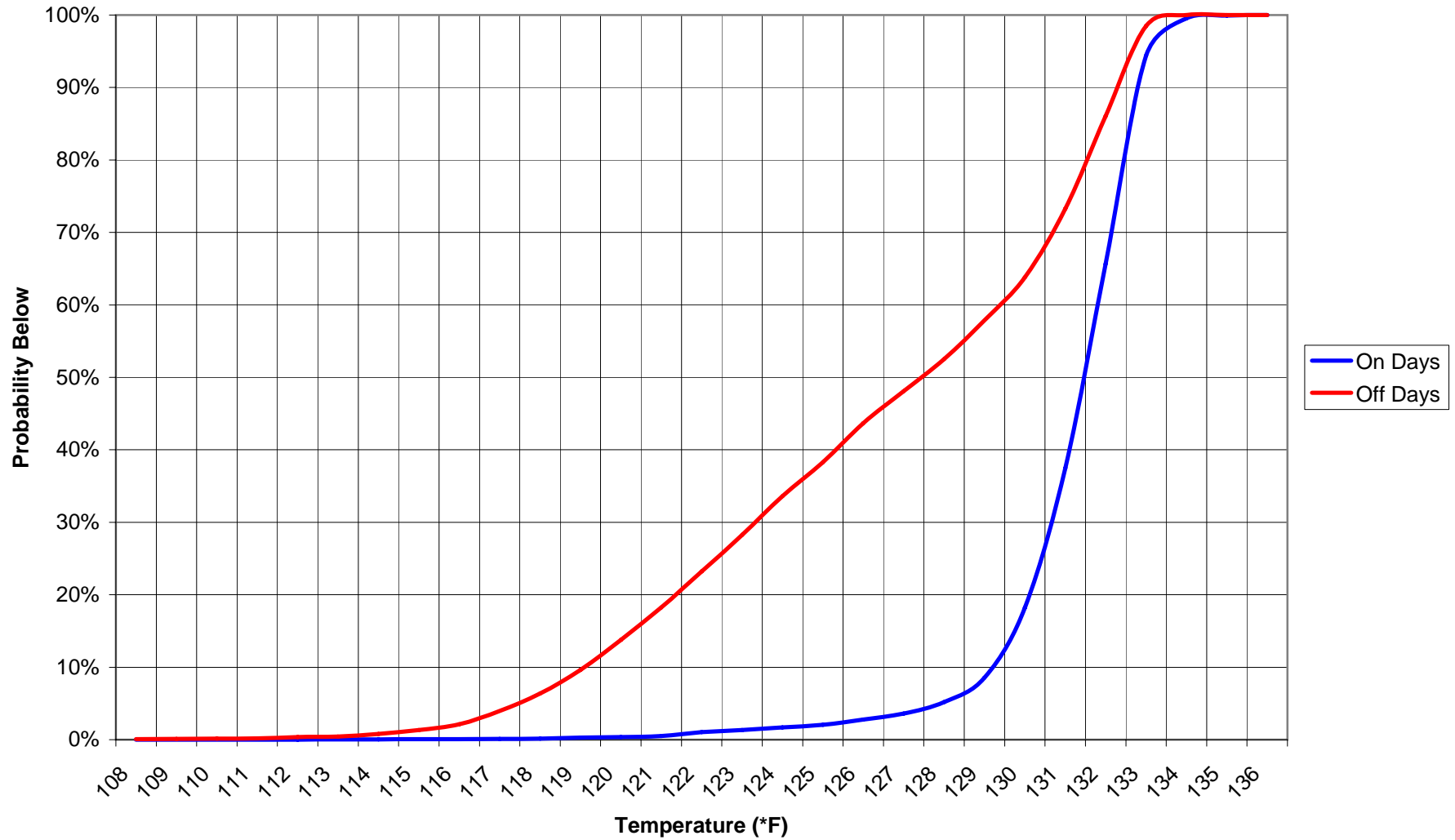
**Gloucester County - Justice Complex  
Space Temperature Probabilities (4/5/07 - 4/18/07)**



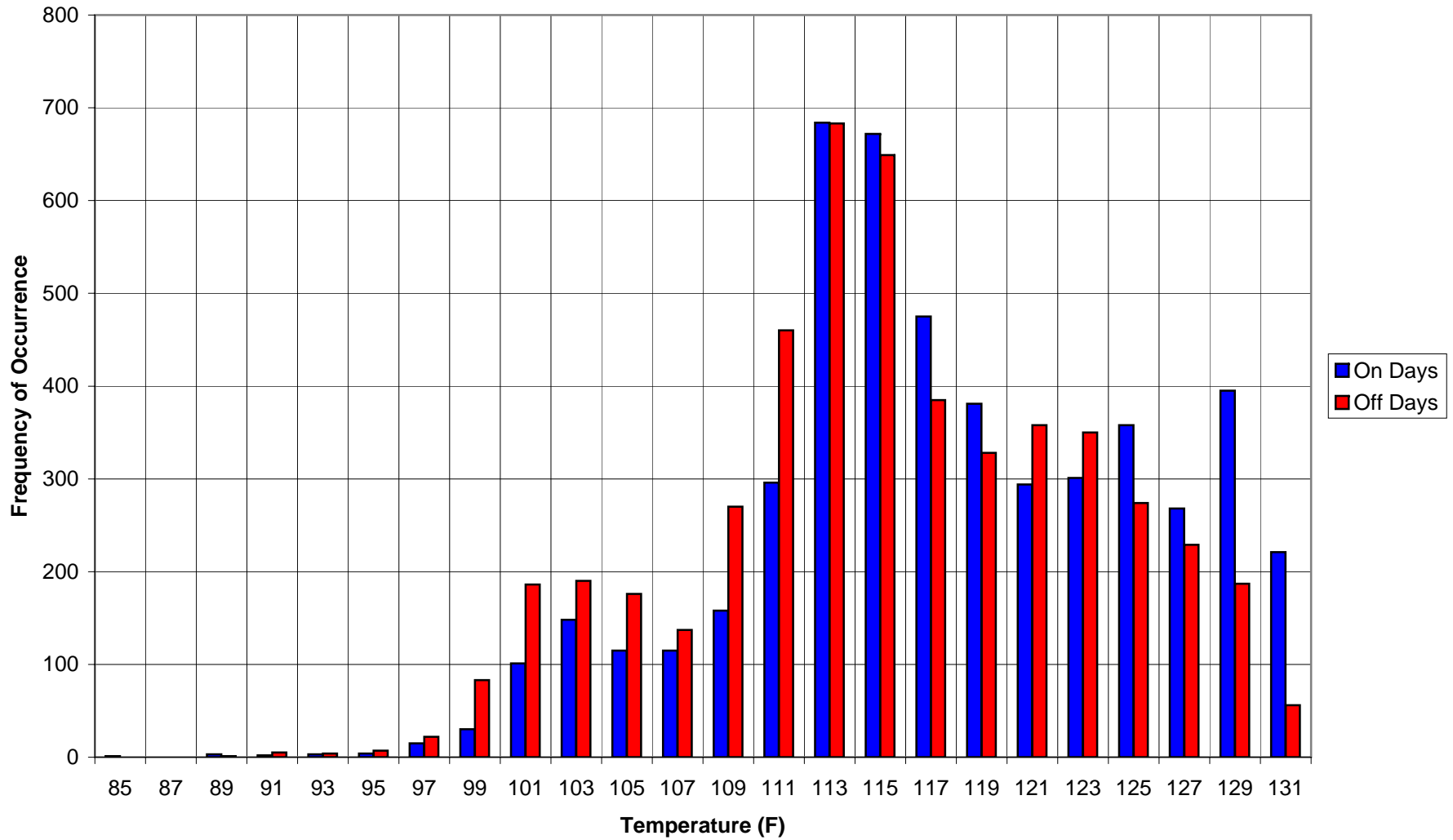
**Gloucester County - Justice Complex**  
**Domestic Hot-Water Mixing Valve Inlet Temperature Histogram (4/11/07 - 4/24/07)**



**Gloucester County - Justice Complex**  
**Domestic Hot-Water Mixing Valve Inlet Temperature Probabilities (4/11/07 - 4/24/07)**



**Gloucester County - Justice Complex**  
**Domestic Hot-Water Mixing Valve Outlet Temperature Histogram (4/11/07 - 4/24/07)**



**Gloucester County - Justice Complex**  
**Domestic Hot-Water Mixing Valve Outlet Temperature Probabilities (4/11/07 - 4/24/07)**

