



Report No. 12167
Date: 04/06/10

Fuel Reduction Pilot Program

CONDUCTED AT

HOLLAND TUNNEL TOLL PLAZA

FOR

Port Authority of New York
&
New Jersey

TEST RESULTS
FOR
HOT-WATER BOILERS

A Confidential Report
Prepared by
Intellidyne LLC



90 Pratt Oval
 Glen Cove, NY 11542
 Phone: 516-676-0777
 Fax: 516-676-2640

Test Report

Report No. 12167

Date: 04/06/10

Customer:

The Port Authority of NY & NJ
 225 Park Ave. South
 New York, NY 10003

Test Site Location:

Holland Tunnel Toll Plaza

Test Type: HEATING AIR CONDITIONING REFRIGERATION OTHER: _____

Product Tested: HW LCH LCS CHW CHS AC CAC RU OTHER: _____

Type of Equipment:

Manufacturer: Weil McLain
 Model: 88 Series 1 (both Boilers)
 Capacity / SetPt: 2,396MBTU each, #1 - 175F / #2 - 180F
 Fuel Type: Natural Gas
 Application: Hydronic and Hydro-Air Space Heating
 Area Served: Toll Plaza Bldg.- Perimeter & Toll Booth Heating
 Misc.

Test Start Date: 01/27/10
 Test End Date: 03/09/10
 No. of Days in Test: 42

BURNER RUN-TIME: in HRS. in MIN.

IntelliCon ON-DAYS: 198:08:52
 IntelliCon OFF-DAYS: 228:05:43 RUN-TIME was reduced by: 13.13%

BURNER USAGE FACTOR:

IntelliCon On-Days: 13%
 IntelliCon Off-Days: 15%

HEATING DEGREE-DAYS (FOR TEST PERIOD)

IntelliCon ON-DAYS: 866 It was 2.1% Warmer on the On-Days.
 IntelliCon OFF-DAYS: 885
 Total Degree-Days: 1751

USAGE PER DEGREE-DAY

ON-DAYS: 0:13:44
 OFF-DAYS: 0:15:28

SOLAR LOAD COMPENSATION: (Lumens/Sq. Ft.)

IntelliCon ON-DAYS: 1441159
 IntelliCon OFF-DAYS: 1555520 It was 7.35% Sunnier on the OFF-Days.

Individual Boiler Data

	ON-DAY	OFF-DAY
Boiler #1		
RT:	73:09:42	95:28:13
CYCLES:	932	1591
Boiler #2		
RT:	124:59:10	132:37:30
CYCLES:	1133	1591

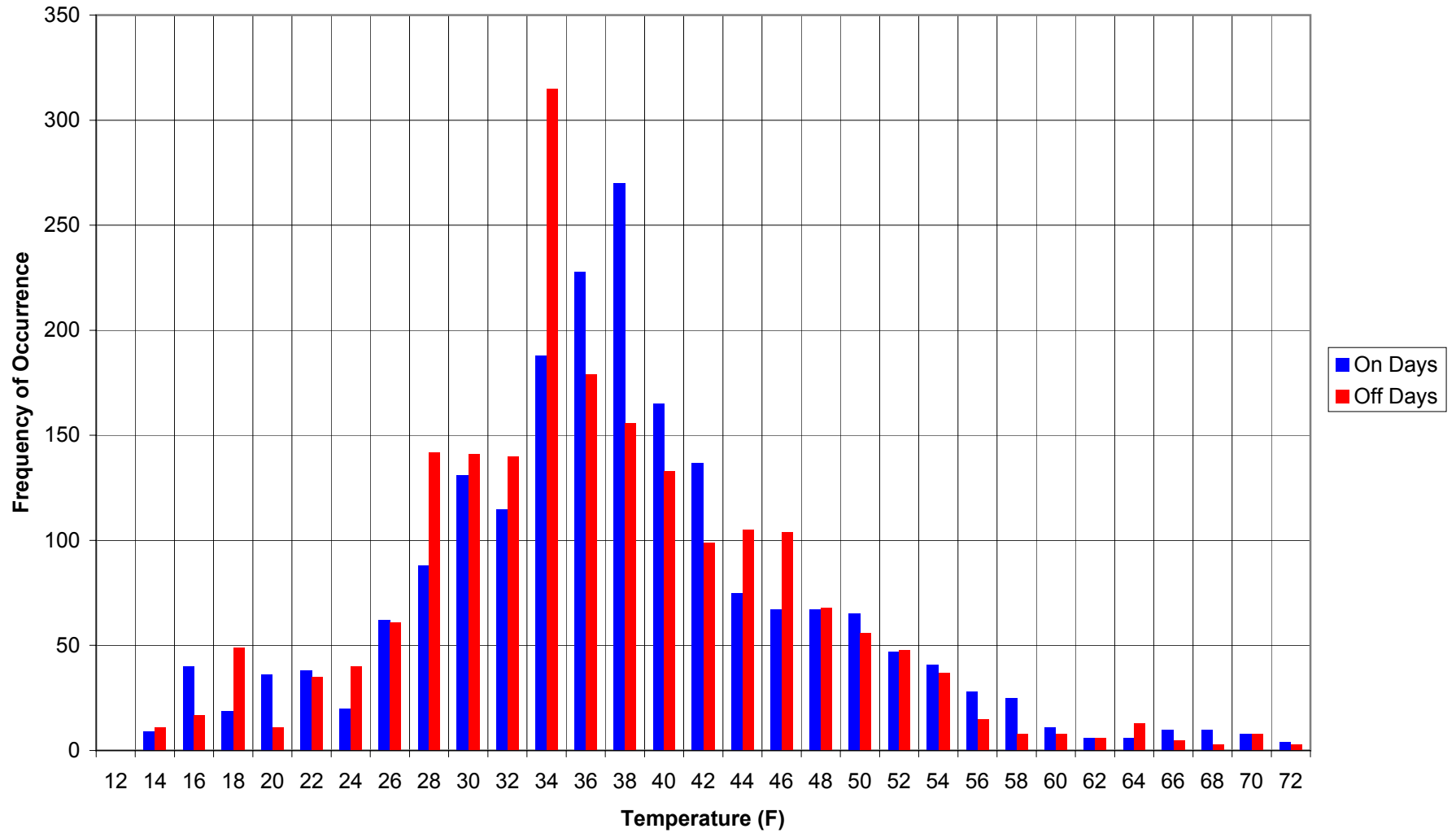
BURNER CYCLING REDUCTION:

IntelliCon ON-DAYS: 2065
 IntelliCon OFF-DAYS: 3182 Cycling was reduced by: 35.1%

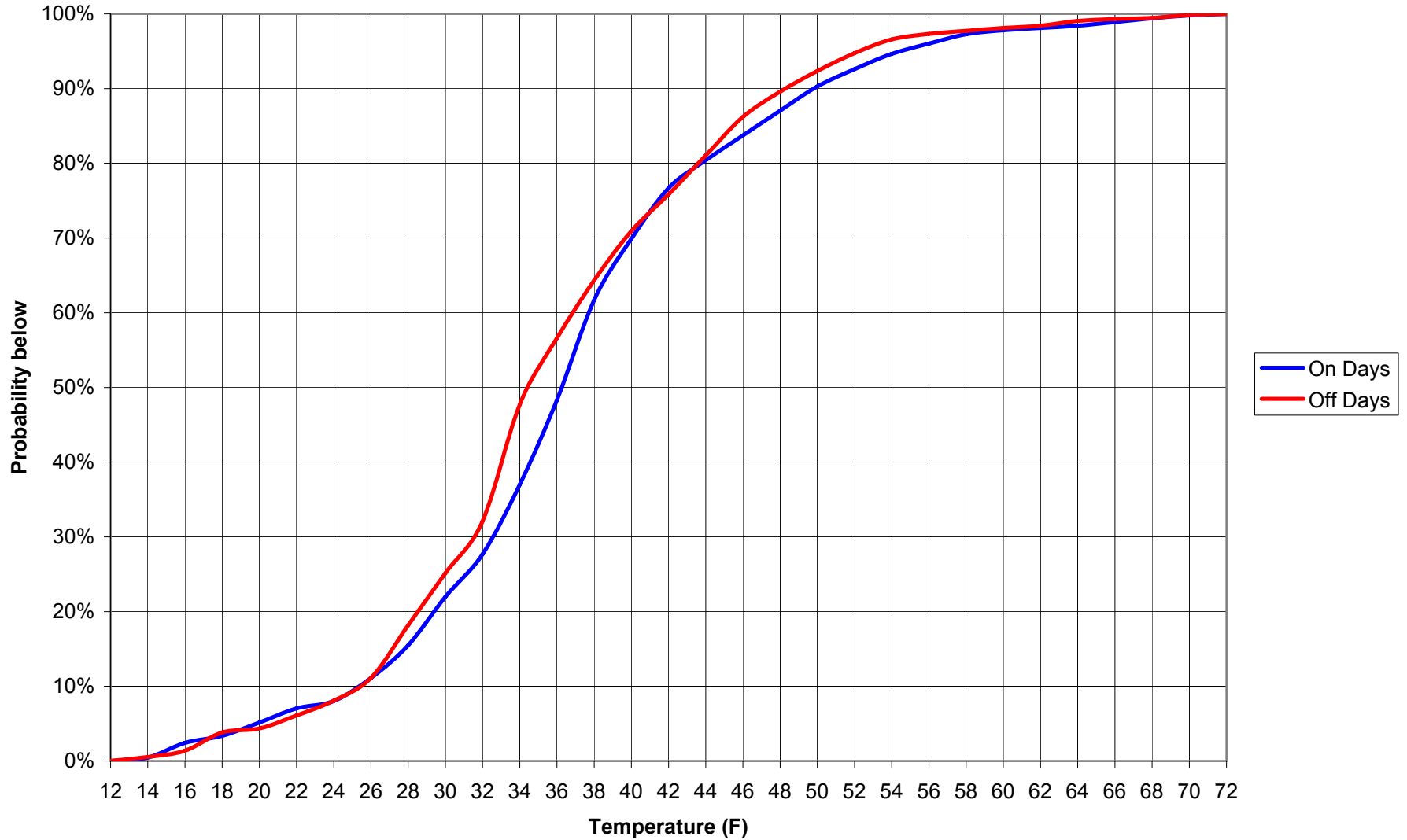
Adj. Savings = 11.23%

COMMENTS: Note: Heating Degree-Day and Solar influence data was gathered with on-site instrumentation and agrees closely with publicly available data. Even though it was 7.35% sunnier on the OFF-Days, analysis of the data resulted in very little correlation between Solar influence and Runtime. Thus, Solar influence was not compensated for. If it was, and since it was sunnier on the "OFF" days, compensation would have yielded increased savings. Temperature maintenance is documented and depicted through the use of the histogram and probability charts. These charts demonstrate very little change in temperature maintenance while achieving in excess of 11% savings.

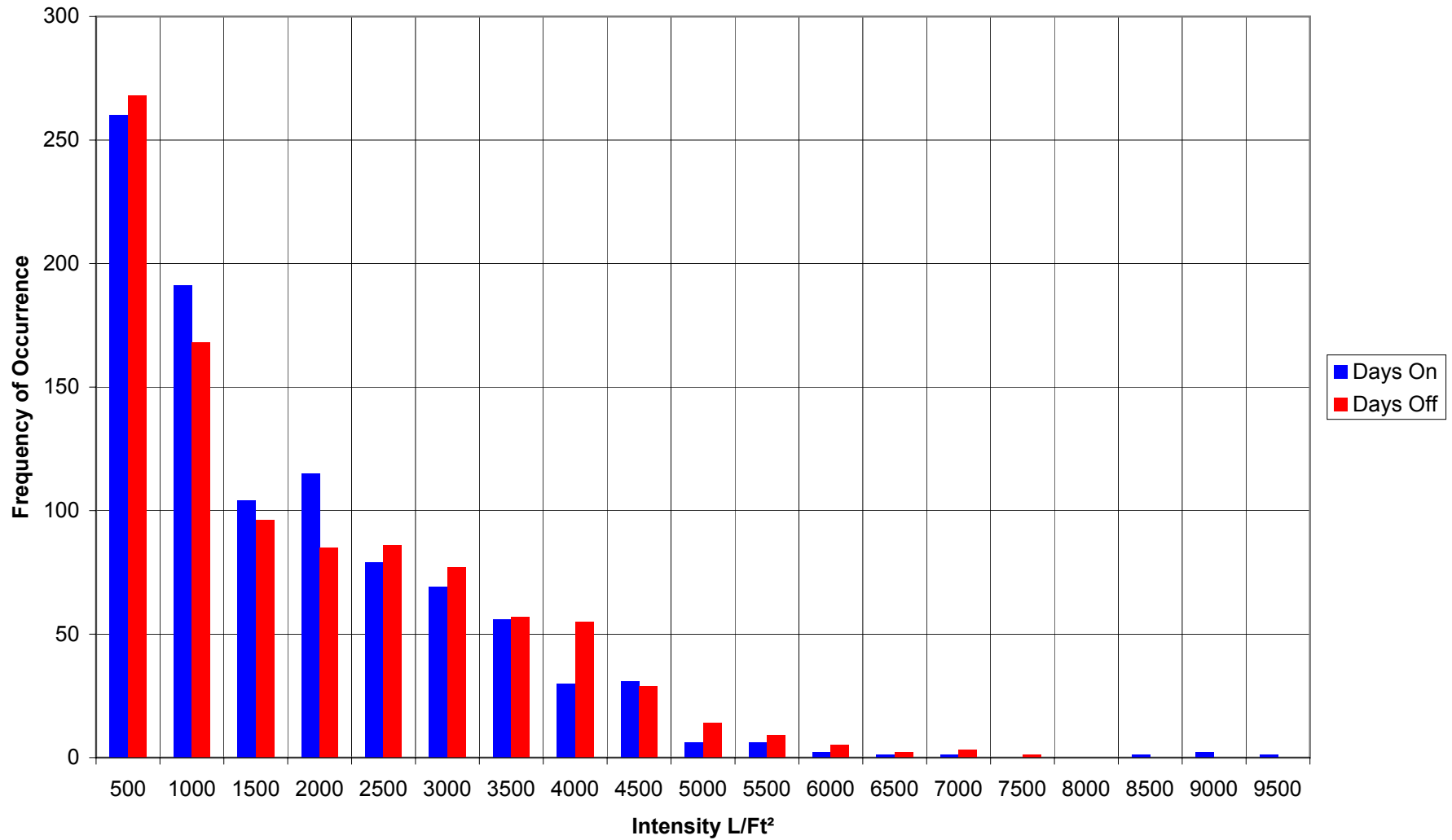
The Port Authority of NY & NJ Holland Tunnel Toll Plaza
Outside Air Temperature Histogram (1/27/10 - 3/09/10)



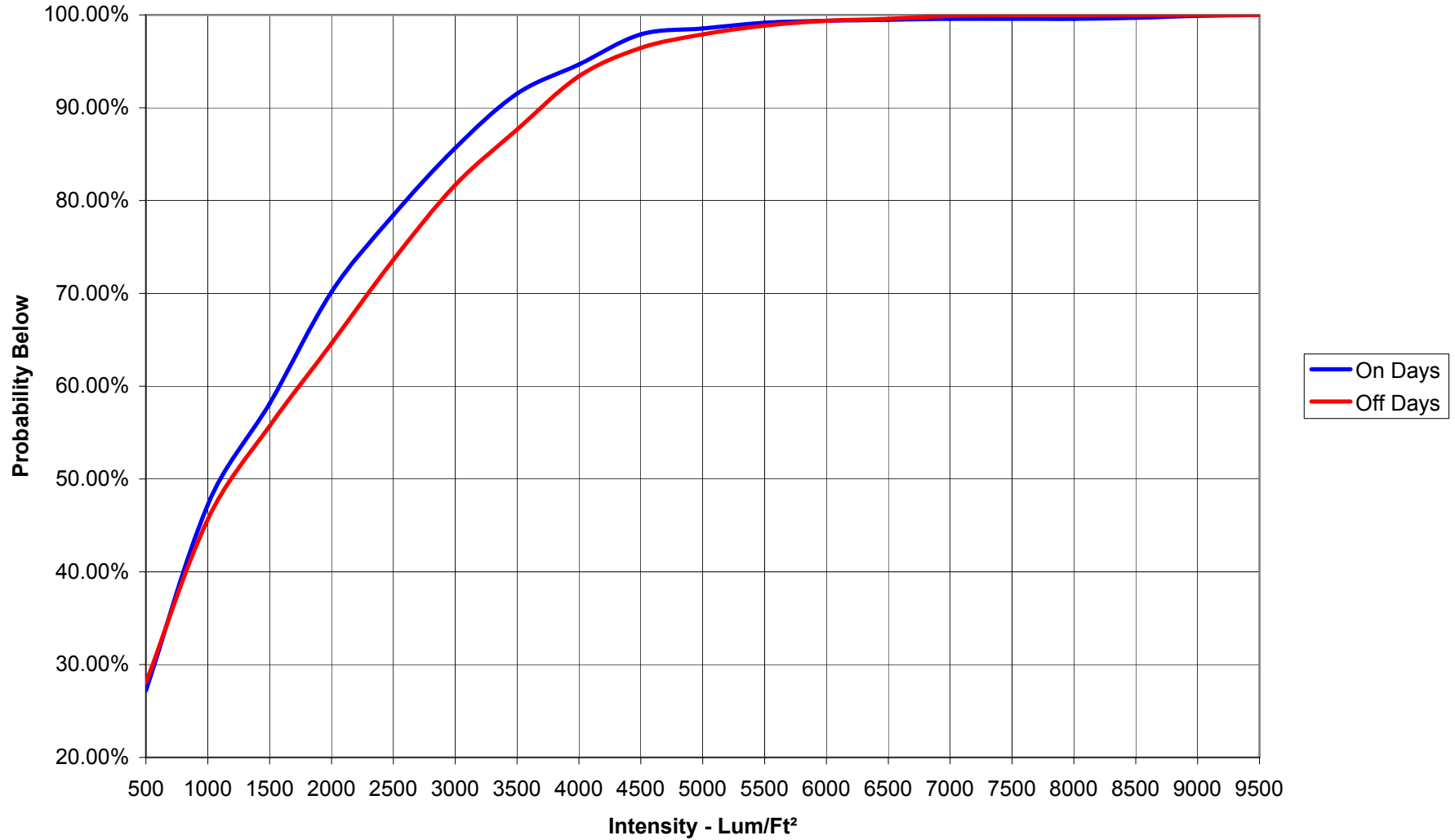
The Port Authority of NY & NJ Holland Tunnel Toll Plaza Outside Air Temperature Probabilities (1/27/10 - 3/09/10)



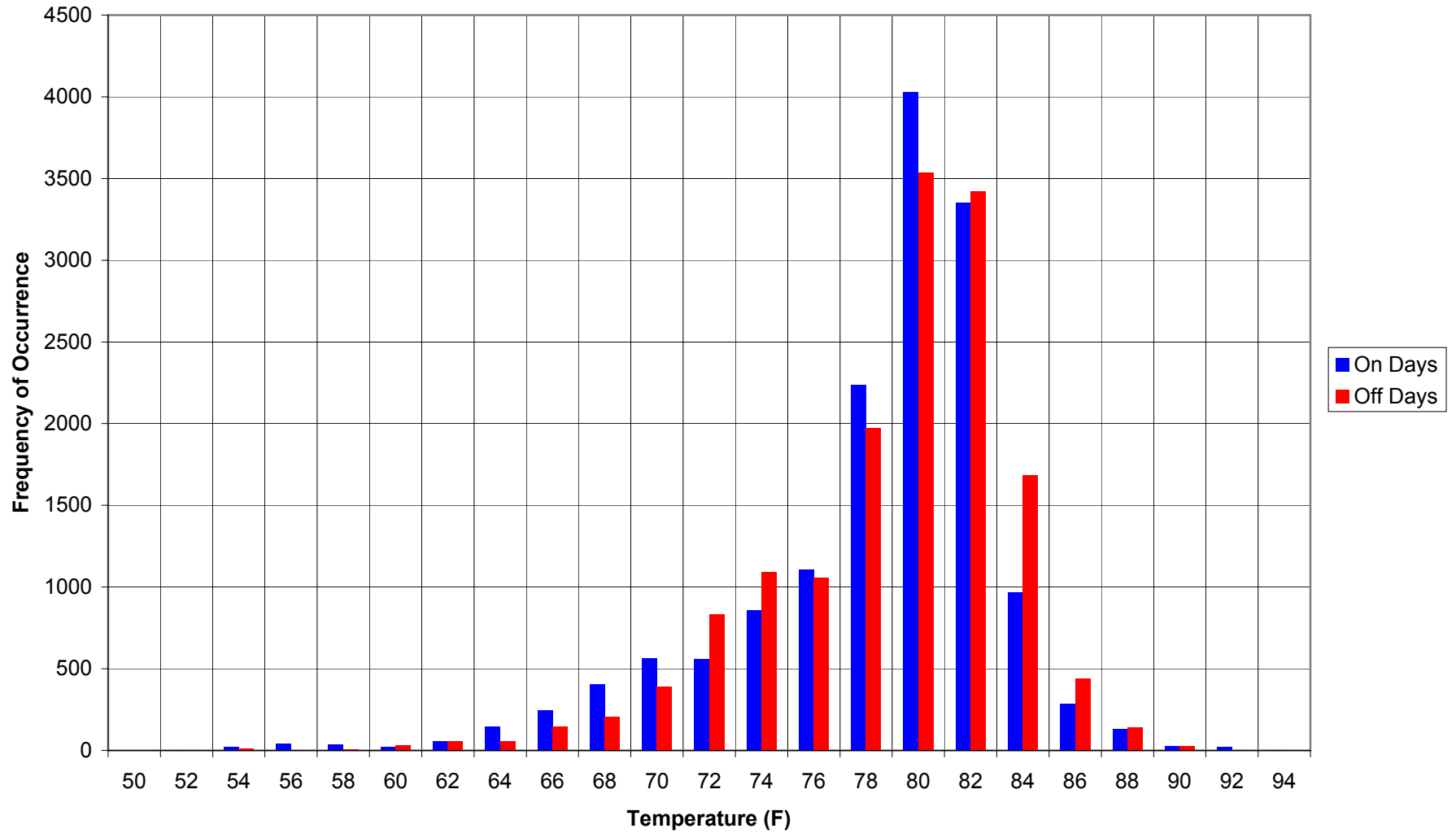
The Port Authority of NY & NJ Holland Tunnel Toll Plaza
Solar Influence Histogram (1/27/10 - 3/09/10)



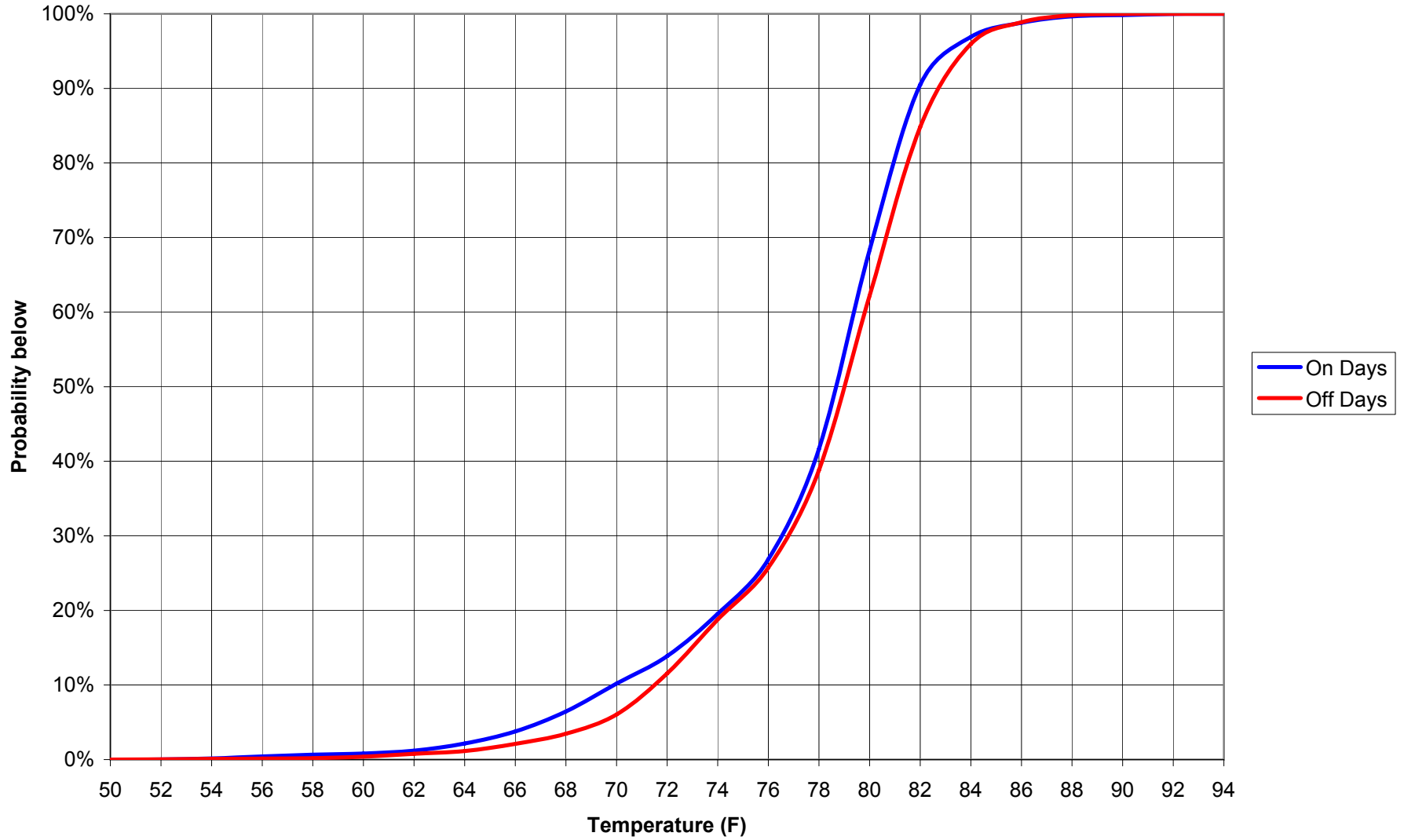
**The Port Authority of NY & NJ Holland Tunnel Toll Plaza
Solar Influence Probabilities (1/27/10 - 3/09/10)**



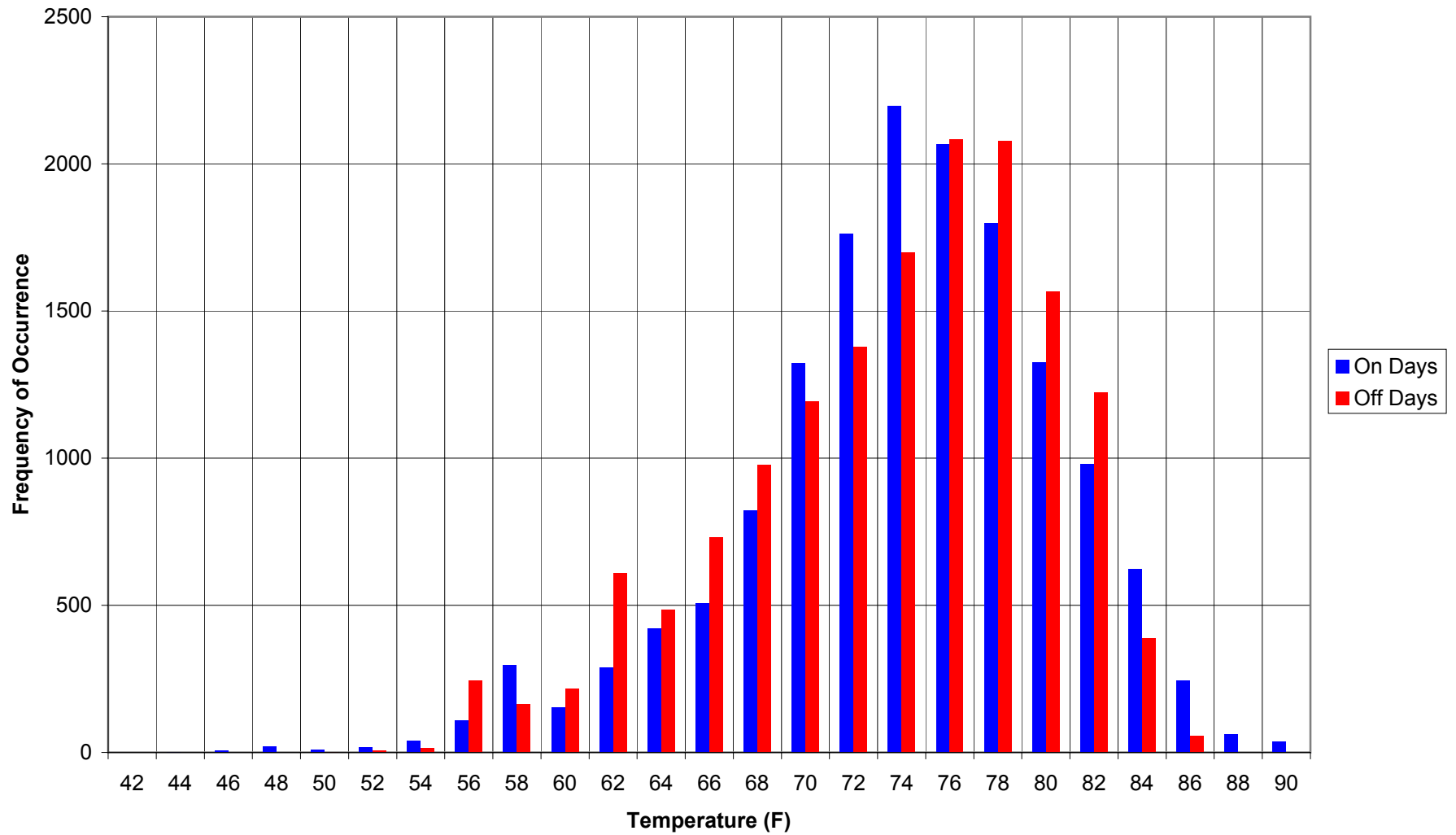
The Port Authority of NY & NJ Holland Tunnel Toll Plaza
Booth #8 Space Temperature Histogram (1/27/10 - 3/09/10)



**The Port Authority of NY & NJ Holland Tunnel Toll Plaza
Booth #8 Space Temperature Probabilities (1/27/10 - 3/09/10)**



The Port Authority of NY & NJ Holland Tunnel Toll Plaza
Booth #9 Space Temperature Histogram (1/27/10 - 3/09/10)



**The Port Authority of NY & NJ Holland Tunnel Toll Plaza
Booth #9 Space Temperature Probabilities (1/27/10 - 3/09/10)**

