

# NATIONAL BUREAU OF STANDARDS REPORT

NBS PROJECT

0201-30-2320

July 1, 1957

NBS REPORT

5344

QUALIFICATION TESTS  
OF  
LAMPS SUPPLIED TO THE GOVERNMENT  
BY  
TEN CONTRACTORS  
DURING FIRST TEN MONTHS  
OF  
CONTRACT PERIOD  
September 1, 1956 to August 31, 1957

By  
S. W. Wilson  
L. C. Bluebond  
and  
J. E. Jordan

Photometry and Colorimetry Section  
Optics and Metrology Division

## IMPORTANT NOTICE

NATIONAL BUREAU OF STANDARDS  
intended for use within the  
to additional evaluation and  
listing of this Report, either  
the Office of the Director, NBS  
however, by the Government  
to reproduce additional copies

Approved for public release by the  
director of the National Institute of  
Standards and Technology (NIST)  
on October 9, 2015

progress accounting documents  
ormally published it is subjected  
; reproduction, or open-literature  
ssion is obtained in writing from  
Such permission is not needed,  
prepared if that agency wishes



U. S. DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS



## 1. PURPOSE OF TESTS

Paragraphs I(g) and I(h) of the Invitation for Bids for Electric Lamps (class 17, part VI) issued May 17, 1956 provided that any bid to supply lamps to the Government during the contract period September 1, 1956 to August 31, 1957 would be considered only if the bidder was qualified under the requirements of applicable Federal Specifications and also specified means whereby successful bidders could qualify for the succeeding contract period September 1, 1957 to August 31, 1958. This report gives a summary of the tests made in accordance with these provisions of the Invitation for Bids.

## 2. PROCEDURE

A Government lamp inspector made periodic visits to the factories or warehouses of contractors supplying lamps to the Government and inspected these lamps to determine compliance with applicable Federal Specifications. Samples from tentatively accepted lots of lamps were selected and forwarded to the National Bureau of Standards for life test. The life tests of the various categories of lamps were made in accordance with the requirements of applicable Federal Specifications as follows:

| <u>Lamps</u>            | <u>Groups</u> | <u>Federal Specification</u> |
|-------------------------|---------------|------------------------------|
| Incandescent, large     | a-as-rs       | W-L-101e                     |
| Incandescent, miniature | m             | W-L-111b                     |
| Fluorescent             | f1            | W-L-116                      |
| Photographic flash      | pf            | W-L-122                      |



### 3. NUMBER OF LAMPS LIFE-TESTED

Lamps as follows, manufactured by current contractors, were life-tested:

| <u>Test No.</u> | <u>Lamp Manufacturer</u> | <u>Groups</u> | <u>Number<br/>Life-Tested</u> |
|-----------------|--------------------------|---------------|-------------------------------|
| 1               | Amplex Corp.             | rs            | 76                            |
| 2               | Amplex Corp.             | pf            | 115                           |
| 3               | Arc-Ray Electric Corp.   | fl            | 90                            |
| 4               | Champion Lamp Works      | a-rs          | 853                           |
| 5               | Champion Lamp Works      | fl            | 90                            |
| 6               | Dura Electric Lamp Co.   | pf            | 115                           |
| 7               | General Electric Co.     | a-as-rs       | 698                           |
| 8               | General Electric Co.     | m             | 143                           |
| 9               | General Electric Co.     | fl            | 90                            |
| 10              | General Electric Co.     | pf            | 115                           |
| 11              | Interlectric Corp.       | fl            | 90                            |
| 12              | Radiant Lamp Corp.       | as            | 40                            |
| 13              | Sylvania Electric Prod.  | a-as-rs       | 634                           |
| 14              | Sylvania Electric Prod.  | fl            | 90                            |
| 15              | Sylvania Electric Prod.  | pf            | 115                           |
| 16              | Tung-Sol Electric Inc.   | m             | 68                            |
| 17              | Westinghouse Elec. Corp. | a-as-rs       | 441                           |
| 18              | Westinghouse Elec. Corp. | m             | 60                            |
| 19              | Westinghouse Elec. Corp. | fl            | 90                            |
| 20              | Westinghouse Elec. Corp. | pf            | 115                           |

### 4. RESULTS

The lamps included in the qualification tests were the product of ten manufacturers. These were grouped into 20 separate qualification tests as tabulated in Section 3 above. The lamps in each of the 20 tests with the exception of those lamps manufactured by the Interlectric Corporation complied with the qualification requirements of the applicable Federal Specifications as listed in Section 2 above, in effect on the date of the tests. Of 90 "Sola" and "Great Western" (Interlectric Corp.) lamps tested, 23 lamps failed to meet the requirements of paragraph 6.2.1.1 of Federal Specification W-L-116. Detailed test results are on file at the National Bureau of Standards.





5. REMARKS

Paragraph 6.2.1.1 of Federal Specification W-L-116 reads as follows: "Of all preheat lamps presented by said contractor during the first 10 months of the contract period and whose life test is completed during those 10 months not more than 10 percent plus 1 lamp shall fail before 3000 burning hours." It will be noted in the results of tests of the lamps manufactured by the Interlectric Corporation that 23 lamps failed before 3000 burning hours, whereas 10 lamps not meeting the requirements are the basis in the specification for non-consideration of bids by the Federal Supply Service.

