



FOR THE SCOPE OF
ACCREDITATION UNDER NVLAP LAB
CODE 100402-0.

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100641836

Date: March 9, 2012

REPORT NO. 100641836CRT-005

TEST OF ONE CEILING MOUNT FIXTURE

FIXTURE MODEL NO. RRWC15-WH

RENDERED TO

MILLENNIUM LIGHTING
922 DAILEY MILL ROAD
MCDONOUGH, GA 30253

TEST: Electrical and Photometric tests as required to the IESNA test standard.

LABORATORY NOTE: The laboratory that conducted the testing detailed in this report has been Qualified, Verified, and Recognized for LM-79 Testing for ENERGY STAR for SSL by US DOE's CALiPER program.

STATEMENT OF LIMITATION: This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

AUTHORIZATION: The testing performed was authorized by signed quote number 500357309.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

IESNA LM-54: 1999 Guide to Lamp Seasoning

IESNA LM-46-04: 1998 Approved Method for Photometric Testing of Indoor Luminaires Using High Intensity Discharge or Incandescent Filament Lamps

DESCRIPTION OF SAMPLE: The client submitted one sample of model number RRWC15-WH. The sample was received by Intertek on February 14, 2012, in undamaged condition, and one sample was tested as received. The sample designation was M242866-2.

DATES OF TESTS: March 7, 2012.

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SUMMARY

| |
|---|
| Model No.: RRWC15-WH |
| Description: Ceiling Mount Fixture with a 100 W Incandescent Bulb |

| Criteria | Result |
|--------------------|--------------|
| Total Lumen Output | 534.7 Lumens |
| Total Power | 86.16 W |
| Luminaire Efficacy | 6.206 |
| Power Factor | 1.000 |

EQUIPMENT LIST

| Equipment Used | Model Number | Control Number | Last Calibration Date | Calibration Due Date |
|----------------------------------|--------------|----------------|-----------------------|----------------------|
| Elgar AC Power Supply | CW1251 | -- | -- | -- |
| Xitron Power Analyzer | 2503H | E235 | 04/20/11 | 04/20/12 |
| Cole Parmer Hygro Thermometer | 445703 | T1359 | 10/26/11 | 10/26/12 |
| Kikusui DC Power Supply | 35-10L | E160 | --- | --- |
| Sorenson DC Power Supply | DLM150-20E | -- | --- | --- |
| LSI High Speed Mirror Goniometer | 6440 | -- | 02/17/12 | 03/17/12 |

TEST METHODS

Seasoning in Each Burn Orientation

The photometric tests were performed after the lamps were seasoned. Before the photometric tests, each bulb was operated in its designated orientation in the appropriate fixture for a time period of 1.5% of its rated hours in accordance with IESNA LM-54 Guide to Lamp Seasoning.

Photometric and Electrical measurements – Distribution Method

A LSI Type C High Speed Model 6440 Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for each sample.

Ambient temperature was measured equal to the height of the sample mounted on the Goniometer equipment. Each sample was operated at input rated voltage in its designated orientation. Each sample was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

Some graphics were created with Photometrics Plus software.

Estimated Total Operating Time

| Model No. | Total Hours |
|-----------|-------------|
| RRWC15-WH | 1 |

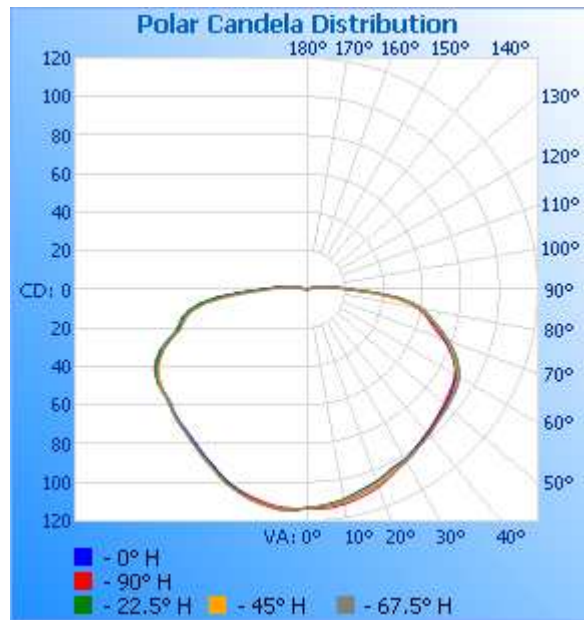
RESULTS OF TESTS

Photometric and Electrical Measurements – Distribution Method

| Intertek Sample No. | Base Orientation | Input Voltage (Vac) | Input Current (mA) | Input Power (Watts) | Input Power Factor | Absolute Luminous Flux (Lumens) | Lumen Efficacy (Lumens Per Watt) |
|---------------------|------------------|---------------------|--------------------|---------------------|--------------------|---------------------------------|----------------------------------|
| RRWC15-WH | | | | | | | |
| M242866-2 | UP | 120.0 | 718.2 | 86.16 | 1.000 | 534.7 | 6.206 |

Intensity (Candlepower) Summary at 25°C - Candelas

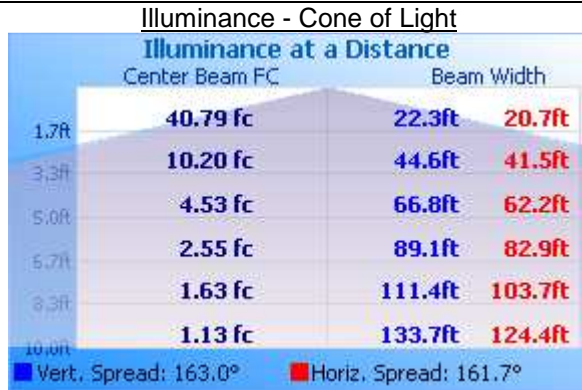
| Angle | 0 | 22.5 | 45 | 67.5 | 90 |
|-----------|-----|------|-----|------|-----|
| RRWC15-WH | | | | | |
| 0 | 113 | 113 | 113 | 113 | 113 |
| 5 | 112 | 112 | 112 | 113 | 114 |
| 10 | 110 | 111 | 111 | 112 | 113 |
| 15 | 108 | 108 | 109 | 110 | 111 |
| 20 | 106 | 106 | 107 | 108 | 109 |
| 25 | 103 | 103 | 104 | 105 | 106 |
| 30 | 102 | 102 | 103 | 103 | 103 |
| 35 | 99 | 100 | 100 | 100 | 100 |
| 40 | 97 | 98 | 98 | 98 | 97 |
| 45 | 95 | 96 | 96 | 96 | 95 |
| 50 | 94 | 95 | 95 | 95 | 93 |
| 55 | 92 | 93 | 93 | 94 | 91 |
| 60 | 90 | 91 | 90 | 91 | 89 |
| 65 | 84 | 86 | 84 | 86 | 84 |
| 70 | 76 | 78 | 77 | 78 | 75 |
| 75 | 68 | 70 | 69 | 70 | 67 |
| 80 | 60 | 62 | 60 | 62 | 60 |
| 85 | 46 | 47 | 44 | 48 | 45 |
| 90 | 23 | 24 | 22 | 25 | 24 |
| 95 | 14 | 14 | 13 | 14 | 14 |
| 100 | 8 | 8 | 8 | 8 | 8 |
| 105 | 4 | 5 | 4 | 5 | 5 |
| 110 | 2 | 2 | 2 | 2 | 2 |



RESULTS OF TESTS (cont'd)

Illumination Plots

Model No.: RRWC15-WH
Mounting Height: 10 ft.



Zonal Lumen Summary and Percentages at 25°C

| Zone | Lumens | % Luminaire |
|-----------|--------|-------------|
| RRWC15-WH | | |
| 0-30 | 90.8 | 17.0 |
| 0-40 | 153.6 | 28.7 |
| 0-60 | 310.0 | 58.0 |
| 60-90 | 203.4 | 38.0 |
| 0-90 | 513.4 | 96.0 |
| 90-180 | 21.3 | 4.0 |
| 0-180 | 534.7 | 100.0 |

Picture (not to scale)



CONCLUSION

The results tabulated in this report are representative of the actual test samples submitted for this report only. The data is provided to the client for further evaluation. Compliance to the referenced specification requirements was not determined in this report.

In Charge Of Tests:

A handwritten signature in black ink, appearing to read 'K R'.

Kenda Branch
Engineer
Lighting Division

Attachment: None

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'David Ellis'.

David Ellis
Senior Project Engineer
Lighting Division