

VISUAL COMFORT GROUP TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER
700FIA30x-LED930

REPORT NUMBER
103643585CHI-032

ISSUE DATE
February 11, 2019

REVISION DATE
None

DOCUMENT CONTROL NUMBER
TBD
© 2017 INTERTEK



REPORT NO.: 103643585CHI-032

REPORT DATE: February 11, 2019

TEST REPORT

TEST OF ONE CHANDELIER LUMINAIRE

MODEL NO. 700FIA30X-LED930
LED MODEL NO. SEOUL STW9A12D
DRIVER MODEL NO. DA45W1200C2036-3001

RENDERED TO:

VISUAL COMFORT GROUP
7400 LINDER AVE.
SKOKIE, IL 60077

AUTHORIZATION

The testing performed was authorized by signed quote number Qu-00912313-2.

STANDARDS USED

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

DESCRIPTION OF SAMPLE

The client submitted one production sample of model number 700FIA30x-LED930. The sample was received by Intertek on January 24, 2019 in undamaged condition and one sample was tested as received. The sample designation was AH01242019034321-032.

DATE OF TESTS

February 7, 2019.

REPORT NO.: 103643585CHI-032

REPORT DATE: February 11, 2019

TEST REPORT

SUMMARY

| | |
|---------------------|----------------------|
| MODEL NO: | 700FIA30x-LED930 |
| DESCRIPTION: | Chandelier Luminaire |

| CRITERIA | RESULTS |
|--------------------------------|---------|
| Lumen Output (lumens) | 5768.2 |
| Input Power (W) @ 120 (VAC) | 80.26 |
| Lumen Efficacy (lm/W) | 71.9 |
| Input Power Factor @ 120 (VAC) | 0.997 |

EQUIPMENT LIST

| EQUIPMENT USED | MODEL NO. | CONTROL NO. | LAST CAL DATE | CAL DUE DATE |
|----------------------------------|-----------|-------------|---------------|--------------|
| Yokogawa Power Meter | WT210 | 146919 | 7/9/2018 | 7/9/2019 |
| Omega Thermometer | DPI8-C24 | 146920 | 10/4/2018 | 10/4/2019 |
| LSI High Speed Mirror Goniometer | 6440T | 146928 | VBV | VBV |
| Newport Thermohygrometer | iServer | 146379 | 4/16/2018 | 4/16/2019 |
| Pacific, AC power supply | 118-ACX | CHI0358 | VBV | VBV |

REPORT NO.: 103643585CHI-032

REPORT DATE: February 11, 2019

TEST REPORT

TEST METHODS

SEASONING IN SAMPLE ORIENTATION - LED PRODUCTS

No seasoning was performed in accordance with IESNA LM-79.

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD

A Type C Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for the SSL sample.

Ambient temperature was measured equal to the height of the sample mounted on the goniometer equipment. The SSL sample was operated on the client provided driver at rated input volts in its designated orientation. The SSL sample was allowed to stabilize for at least thirty minutes before measurements were made. Stabilization procedures to LM-79 were followed. Electrical measurements including voltage, current, and power were measured using a power analyzer.

REPORT NO.: 103643585CHI-032

REPORT DATE: February 11, 2019

TEST REPORT

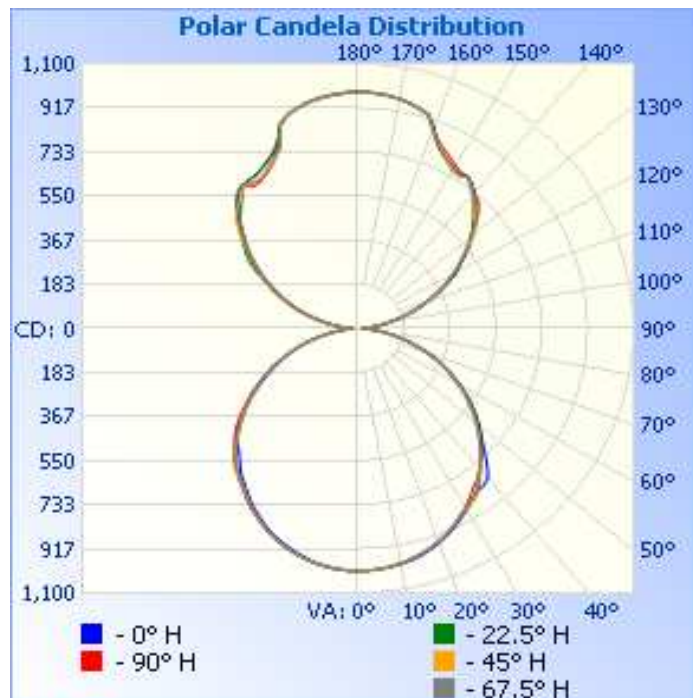
RESULTS OF TESTS

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD (25°C +/- 1°C)

| INTERTEK CONTROL NO. | BASE POSITION | INPUT VOLTAGE (VAC) | INPUT CURRENT (mA) | INPUT POWER (W) | INPUT POWER FACTOR | LIGHT OUTPUT (lm) | LUMEN EFFICACY (lm/W) |
|----------------------|---------------|---------------------|--------------------|-----------------|--------------------|-------------------|-----------------------|
| AH01242019034321-032 | Base Up | 120.0 | 670.9 | 80.26 | 0.997 | 5768.2 | 71.9 |

INTENSITY SUMMARY - CANDELAS

| Angle | 0 | 22.5 | 45 | 67.5 | 90 |
|-------|------|------|------|------|------|
| 0 | 1008 | 1008 | 1008 | 1008 | 1008 |
| 5 | 1004 | 1004 | 1004 | 1004 | 1004 |
| 10 | 994 | 991 | 991 | 991 | 991 |
| 15 | 977 | 970 | 970 | 970 | 969 |
| 20 | 949 | 942 | 943 | 942 | 940 |
| 25 | 912 | 905 | 904 | 903 | 902 |
| 30 | 871 | 867 | 870 | 861 | 858 |
| 35 | 827 | 834 | 827 | 822 | 806 |
| 40 | 808 | 757 | 753 | 761 | 759 |
| 45 | 713 | 693 | 687 | 687 | 695 |
| 50 | 631 | 631 | 617 | 616 | 632 |
| 55 | 556 | 552 | 543 | 540 | 548 |
| 60 | 473 | 469 | 465 | 462 | 461 |
| 65 | 392 | 384 | 384 | 383 | 375 |
| 70 | 307 | 293 | 294 | 293 | 289 |
| 75 | 217 | 207 | 206 | 205 | 206 |
| 80 | 132 | 124 | 122 | 123 | 123 |
| 85 | 62 | 56 | 55 | 58 | 59 |
| 90 | 21 | 22 | 24 | 25 | 24 |
| 95 | 43 | 40 | 36 | 32 | 33 |
| 100 | 109 | 103 | 97 | 92 | 91 |
| 105 | 188 | 183 | 176 | 169 | 169 |
| 110 | 272 | 267 | 264 | 258 | 258 |
| 115 | 357 | 351 | 345 | 343 | 343 |
| 120 | 439 | 450 | 426 | 426 | 428 |
| 125 | 518 | 512 | 506 | 507 | 512 |
| 130 | 593 | 588 | 603 | 586 | 598 |
| 135 | 662 | 654 | 658 | 674 | 679 |
| 140 | 722 | 712 | 715 | 719 | 728 |
| 145 | 771 | 766 | 769 | 763 | 767 |
| 150 | 770 | 757 | 758 | 768 | 780 |
| 155 | 799 | 802 | 805 | 804 | 819 |
| 160 | 887 | 881 | 876 | 873 | 882 |
| 165 | 948 | 948 | 946 | 946 | 945 |
| 170 | 969 | 968 | 967 | 968 | 968 |
| 175 | 980 | 979 | 979 | 980 | 982 |
| 180 | 982 | 982 | 982 | 983 | 985 |



REPORT NO.: 103643585CHI-032

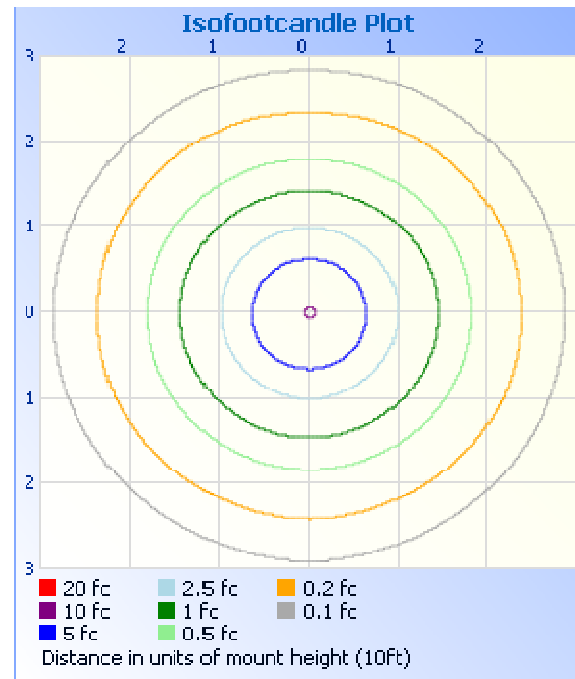
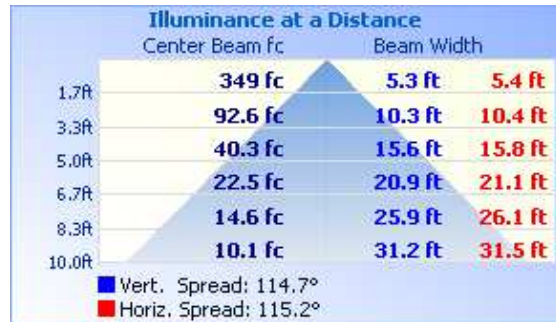
REPORT DATE: February 11, 2019

TEST REPORT

RESULTS OF TESTS

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD (25°C +/- 1°C)

| MOUNTING HEIGHT: 10ft | |
|-----------------------------|----------------------|
| ILLUMINANCE - CONE OF LIGHT | ISOILLUMINATION PLOT |



ZONAL LUMEN SUMMARY AND PERCENTAGES

| ZONE | LUMENS | % LUMINAIRE |
|--------|--------|-------------|
| 0-30 | 784.7 | 13.6 |
| 0-40 | 1293.0 | 22.4 |
| 0-60 | 2310.7 | 40.1 |
| 60-90 | 655.0 | 11.4 |
| 70-100 | 342.1 | 5.9 |
| 90-120 | 615.9 | 10.7 |
| 0-90 | 2965.7 | 51.4 |
| 90-180 | 2802.5 | 48.6 |
| 0-180 | 5768.2 | 100.0 |

| ZONE | LUMENS | % LUMINAIRE |
|---------|--------|-------------|
| 0-10 | 95.3 | 1.7 |
| 10-20 | 273.6 | 4.7 |
| 20-30 | 415.8 | 7.2 |
| 30-40 | 508.3 | 8.8 |
| 40-50 | 533.6 | 9.2 |
| 50-60 | 484.1 | 8.4 |
| 60-70 | 372.7 | 6.5 |
| 70-80 | 215.5 | 3.7 |
| 80-90 | 66.8 | 1.2 |
| 90-100 | 59.8 | 1.0 |
| 100-110 | 201.1 | 3.5 |
| 110-120 | 354.9 | 6.2 |
| 120-130 | 465.9 | 8.1 |
| 130-140 | 515.4 | 8.9 |
| 140-150 | 472.5 | 8.2 |
| 150-160 | 373.4 | 6.5 |
| 160-170 | 266.2 | 4.6 |
| 170-180 | 93.2 | 1.6 |

REPORT NO.: 103643585CHI-032

REPORT DATE: February 11, 2019

TEST REPORT

PICTURES



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:

Tess Gallagher

Tess Gallagher
Engineer
Lighting Division

Report Reviewed By:

Tim Quigley

Timothy Quigley
Engineer
Lighting Division

Attachments: IES File

REVISION HISTORY

| JOB NUMBER | DATE OF REVISION | PROJECT HANDLER | REVIEWED BY | REVISION NOTE |
|------------|------------------|-----------------|-------------|---------------|
| None | | | | |