

VISUAL COMFORT GROUP TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

700LSDES48xx-LED92730

REPORT NUMBER

104203293CHI-005

ISSUE DATE

January 7, 2020

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT NO.: 104203293CHI-005

REPORT DATE: January 7, 2020

TEST REPORT

TEST OF ONE DESSAU 48" LINEAR SUSP

MODEL NO. 700LSDES48XX-LED92730
LED MODEL NO. LUMINUS MP-2016-1100-30-90
DRIVER MODEL NO. LTF DA32W900C2036-3001

RENDERED TO:

VISUAL COMFORT GROUP
7400 LINDER AVE.
SKOKIE IL 60077

AUTHORIZATION

The testing performed was authorized by signed quote number Qu-00981438.

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 700LSDES48xx-LED92730. The sample was received by Intertek on December 23, 2019 in undamaged condition and one sample was tested as received. The sample designation was AH12232019065911-005.

DATE OF TESTS

January 3, 2019.

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TEST REPORT

SUMMARY

| | |
|---------------------|------------------------|
| MODEL NO: | 700LSDES48xx-LED92730 |
| DESCRIPTION: | Dessau 48" Linear Susp |

| CRITERIA | RESULTS |
|--------------------------------|---------|
| Lumen Output (lumens) | 2261.2 |
| Input Power (W) @ 120 (VAC) | 36.16 |
| Lumen Efficacy (lm/W) | 62.5 |
| Input Power Factor @ 120 (VAC) | 0.994 |

EQUIPMENT LIST

| EQUIPMENT USED | MODEL NO. | CONTROL NO. | LAST CAL DATE | CAL DUE DATE |
|----------------------------------|-----------|-------------|---------------|--------------|
| Yokogawa Power Meter | WT210 | 146919 | 7/1/2019 | 7/1/2020 |
| Omega Thermometer | DPI8-C24 | 146920 | 10/3/2019 | 10/3/2020 |
| LSI High Speed Mirror Goniometer | 6440T | 146928 | VBV | VBV |
| Newport Thermohygrometer | iServer | 146956 | 10/11/2019 | 10/11/2020 |
| Elgar, AC Power Supply | CW1251 | 146111 | VBV | VBV |

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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.

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TEST REPORT

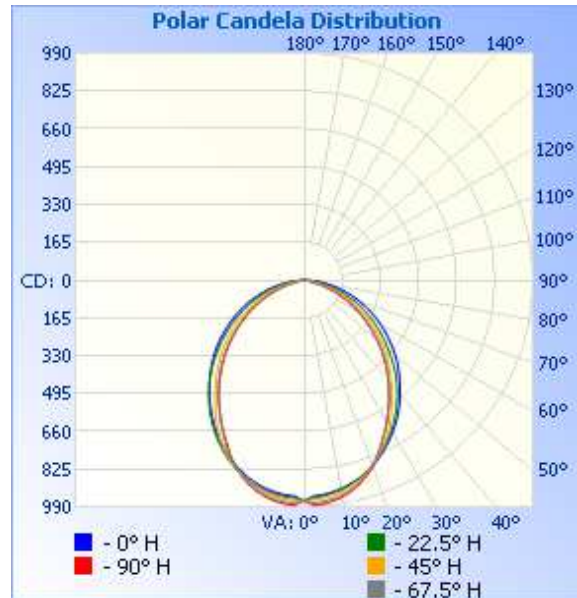
RESULTS OF TESTS

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) |
|----------------------|---------------|---------------------|--------------------|-----------------|------------------------|-------------------|-----------------------|
| AH12232019065911-005 | Base Up | 120.0 | 303.0 | 36.16 | 0.994 | 2261.2 | 62.5 |

INTENSITY SUMMARY - CANDELAS

| Angle | 0 | 22.5 | 45 | 67.5 | 90 |
|-------|-----|------|-----|------|-----|
| 0 | 963 | 963 | 963 | 963 | 963 |
| 5 | 940 | 945 | 954 | 969 | 980 |
| 10 | 924 | 929 | 938 | 951 | 960 |
| 15 | 900 | 901 | 907 | 915 | 923 |
| 20 | 864 | 860 | 862 | 860 | 868 |
| 25 | 818 | 811 | 805 | 792 | 790 |
| 30 | 767 | 757 | 739 | 716 | 716 |
| 35 | 711 | 695 | 662 | 642 | 643 |
| 40 | 646 | 628 | 589 | 569 | 569 |
| 45 | 582 | 556 | 518 | 496 | 493 |
| 50 | 518 | 479 | 447 | 421 | 417 |
| 55 | 448 | 406 | 375 | 347 | 341 |
| 60 | 381 | 336 | 304 | 276 | 266 |
| 65 | 313 | 268 | 233 | 204 | 194 |
| 70 | 244 | 200 | 166 | 136 | 125 |
| 75 | 178 | 135 | 100 | 72 | 64 |
| 80 | 112 | 73 | 40 | 24 | 21 |
| 85 | 52 | 18 | 2 | 0 | 0 |
| 90 | 3 | 0 | 0 | 0 | 0 |



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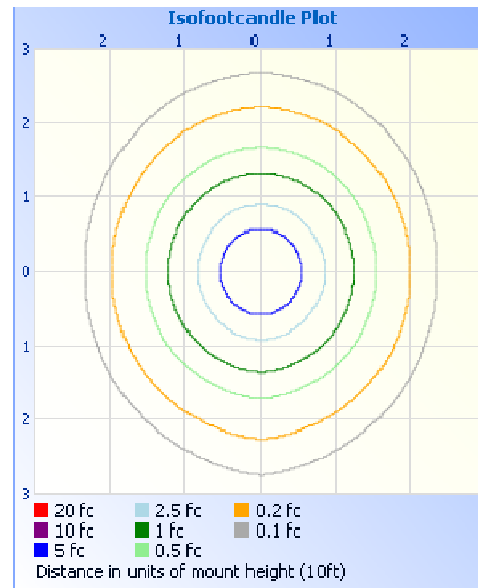
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RESULTS OF TESTS

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 | 718.0 | 31.8 |
| 0-40 | 1138.0 | 50.3 |
| 0-60 | 1888.8 | 83.5 |
| 60-90 | 372.3 | 16.5 |
| 70-100 | 133.6 | 5.9 |
| 90-120 | 0.1 | 0.0 |
| 0-90 | 2261.1 | 100.0 |
| 90-180 | 0.1 | 0.0 |
| 0-180 | 2261.2 | 100.0 |

| ZONE | LUMENS | % LUMINAIRE |
|--------|--------|-------------|
| 0-10 | 90.9 | 4.0 |
| 10-20 | 256.1 | 11.3 |
| 20-30 | 371.0 | 16.4 |
| 30-40 | 420.0 | 18.6 |
| 40-50 | 408.2 | 18.1 |
| 50-60 | 342.6 | 15.2 |
| 60-70 | 238.7 | 10.6 |
| 70-80 | 115.0 | 5.1 |
| 80-90 | 18.5 | 0.8 |
| 90-100 | 0.1 | 0.0 |

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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:

Timothy Quigley
Project Engineer
Lighting Division

Report Reviewed By:

Jeffrey Davis
N. A. Technical Lead
Lighting Division

Attachments: IES File

REVISION HISTORY

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