



## LM-79 Test Report

### Standards

IES LM-79-2008

IES TM-30-2015

CIE 13.3-1995

### Product SKU

XFL-SW-244.4-24022-2595

### Test Conditions

Test Temperature: 24°C

Test Sample: 300mm

Power Supply: HP

Voltage: 24V

Power Consumption: 4.8W

### Test Date

7/9/2020

Prepared By

Approved By

Richard Wong  
Director of Engineering

Ishita Goswami  
Director of Product Marketing

The results contained in this report pertain only to the tested sample.  
Photometric & Colorimetry data measured in accordance to IES LM-79-2008 standards, at Xicato.

## Summary of Results

SKU: XFL-SW-244.4-24022-2595

Luminous Flux: 408lm

CCT: 2507K

mDUV: 0.9

Voltage: 24V

Current: 200mA

Power Consumption: 4.8W

Efficacy: 84.9LPW

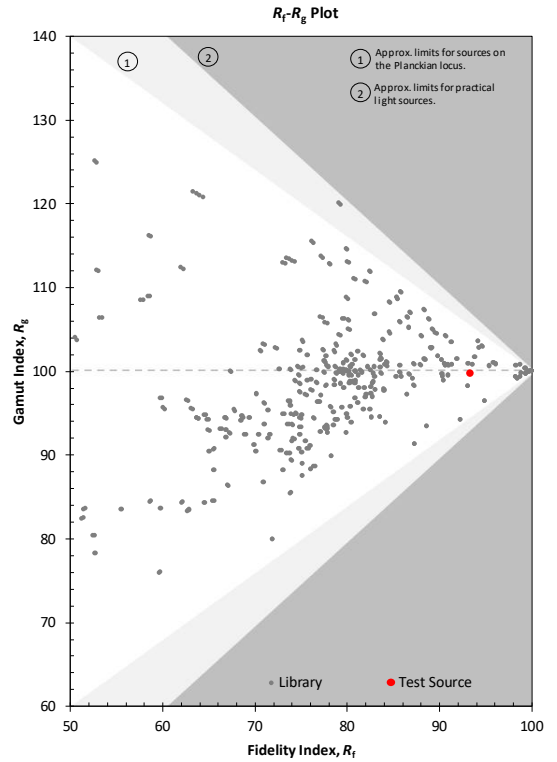
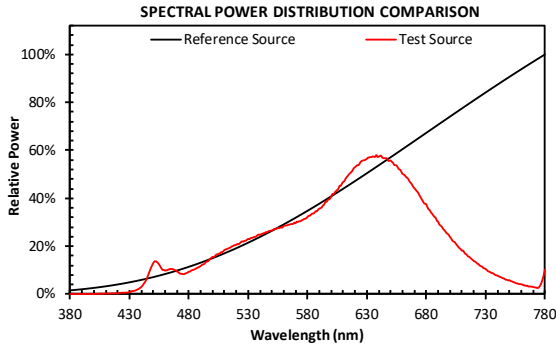
### BASIC RESULTS

Source:

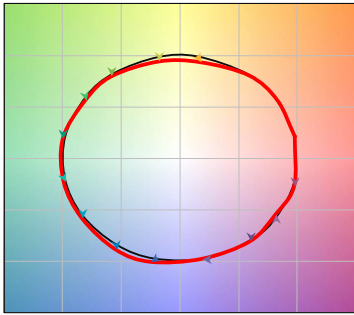
#### Test Source

|           |        |
|-----------|--------|
| $R_f$     | 93     |
| $R_g$     | 100    |
| CCT (K)   | 2507   |
| $D_{uv}$  | 0.0009 |
| $x$       | 0.4780 |
| $y$       | 0.4163 |
| CIE $R_a$ | 97     |

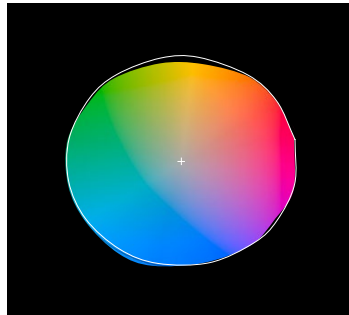
0



**COLOR VECTOR GRAPHIC**



**COLOR DISTORTION GRAPHIC**

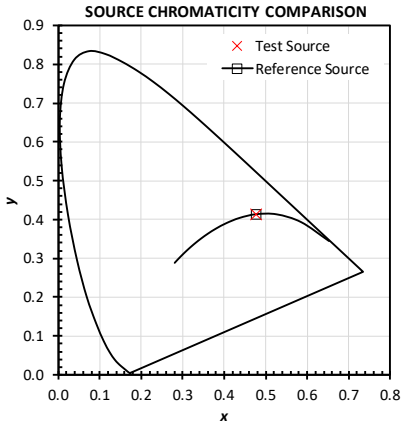


The results contained in this report pertain only to the tested sample.  
 Photometric & Colorimetry data measured in accordance to IES LM-79-2008 standards, at Xicato.

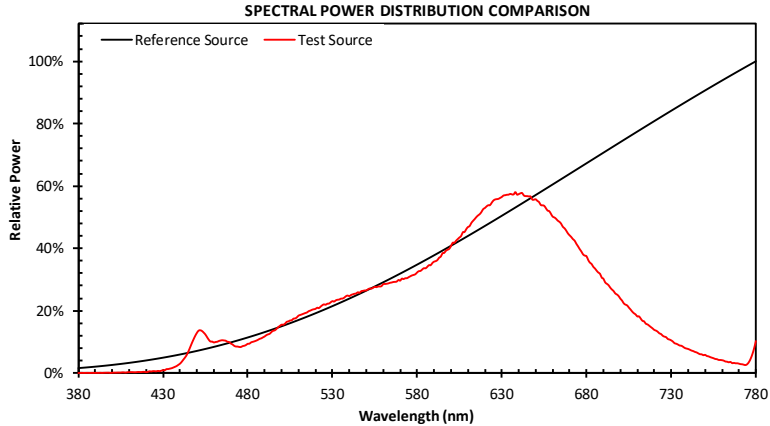
**Summary Results**

| Metric       | Test | Reference | Notes                                   | Metric   | Test   | Reference | Notes                             |
|--------------|------|-----------|---|----------|--------|-----------|-----------------------------------|
| $R_f$        | 93   | 100       | IES TM-30-15 Fidelity Index             | $CCT$    | 2507   | 2507      | Correlated Color Temperature      |
| $R_g$        | 100  | 100       | IES TM-30-15 Gamut Index                | $D_{uv}$ | 0.0009 | 0.0000    | Distance from the blackbody locus |
| $CIE R_9$    | 97   | 100       | CIE Test Color Method General Index     | $x$      | 0.4780 | 0.4764    | CIE 1931 chromaticity coordinate  |
| $R_9$        | 98   | 100       | CIE Test Color Method Sample Nine Score | $y$      | 0.4163 | 0.4136    | CIE 1931 chromaticity coordinate  |
| $LER$        | 251  | 135       | Luminous Efficacy of Radiation          | $u$      | 0.2716 | 0.2718    | CIE 1960 chromaticity coordinate  |
| $R_{f,skin}$ | 93   | 100       | Average of CES15 and CES18 (skin)       | $v$      | 0.3548 | 0.3540    | CIE 1960 chromaticity coordinate  |
|              |      |           |   | $u'$     | 0.2716 | 0.2718    | CIE 1976 chromaticity coordinate  |
|              |      |           |   | $v'$     | 0.5322 | 0.5310    | CIE 1976 chromaticity coordinate  |

**Source Properties**

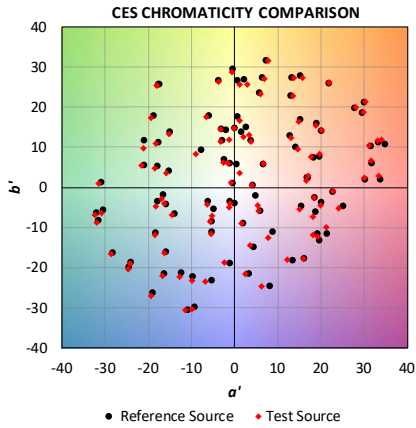


This chart plots the chromaticity of the test and reference sources in the CIE 1931 chromaticity diagram.

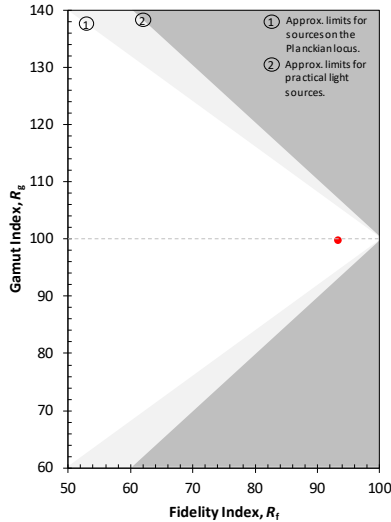


This chart displays the spectral power distributions for the test and reference source. Each SPD has been normalized so that the maximum values is 100%.

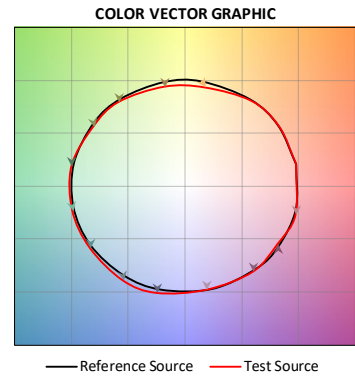
**General Color Rendition**



This plot shows the shift in chromaticity for each individual CES.



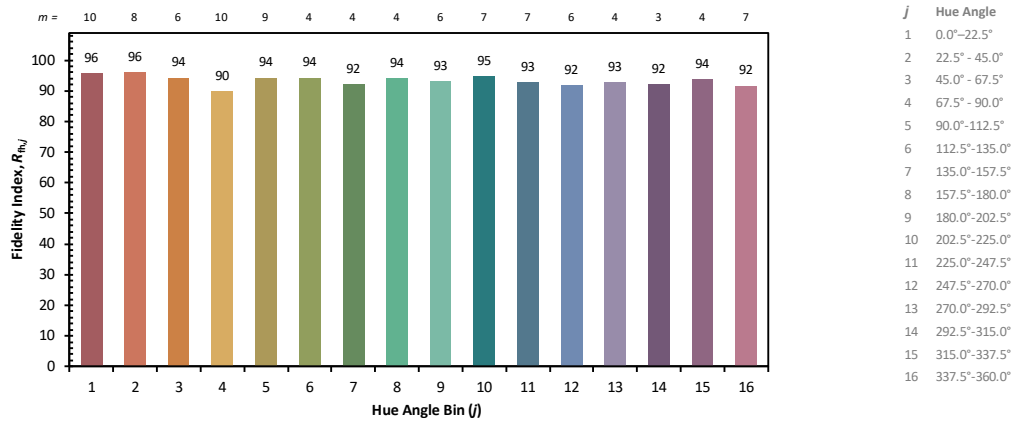
This plot shows a comparison of the  $R_f$  and  $R_g$  values relative to the range of possible values.



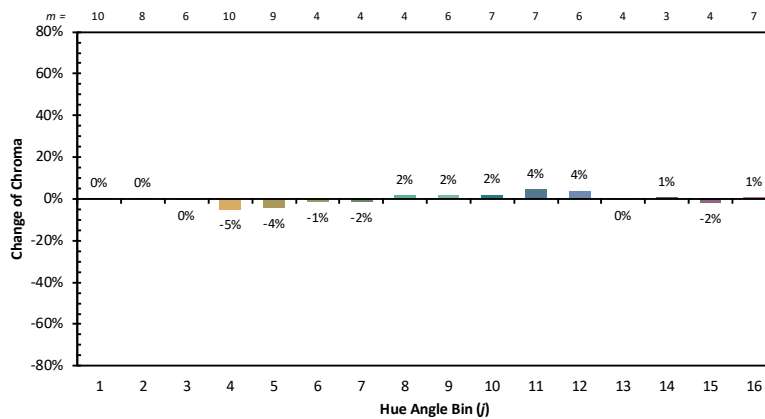
This plot shows the average chromaticity shift for the samples within each of 16 hue bins. The values are normalized so that the reference is a circle.

The results contained in this report pertain only to the tested sample.  
 Photometric & Colorimetry data measured in accordance to IES LM-79-2008 standards, at Xicato.

## Color Rendition by Hue

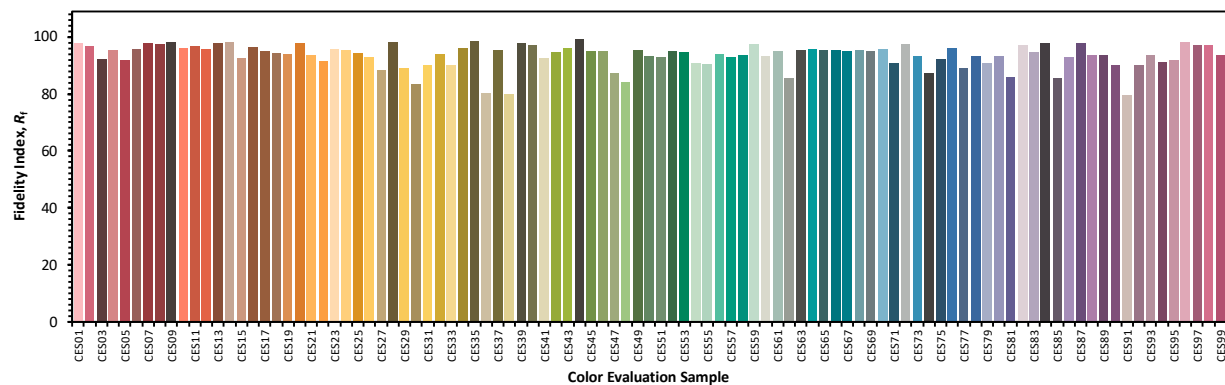


This chart displays the average Fidelity Index for all samples within the hue bin. The number of samples per bin, which can vary based on the CCT used for the calculation, is shown at the top. The color of the bar is based on the average chromaticity under the 5000 K reference illuminant; the colors may not display accurately depending on the calibration of the monitor, and should be used for orientation only.



This chart displays the change in chroma for the average sample within each hue bin. The number of samples per bin, which can vary based on the CCT used for the calculation, is shown at the top. The color of the bar is based on the average chromaticity under the 5000 K reference illuminant; the colors may not display accurately depending on the calibration of the monitor, and should be used for orientation only.

## Color Fidelity by Sample



This chart displays the Fidelity Index for each of the 99 CES. The CES are arranged by their hue angle under the 5000 K reference source, which was also used to determine the color of each bar. The colors are approximate and depend on proper monitor calibration. Some colors may be outside of the gamut of the monitor, and will not be displayed accurately.

The results contained in this report pertain only to the tested sample.  
 Photometric & Colorimetry data measured in accordance to IES LM-79-2008 standards, at Xicato.