LM-79 Test Report

**Relevant Standards**

IES LM-79-2008  
IES TM-30-2015  
CIE 13.3-1995

**Product SKU**

BLAZÉ™ X 100 12V Wet Location LED Strip Light  
SKU: DI-12V-BLX1-35-W***

**Test Conditions**

Test Temperature: 26.5 °C  
Luminaire Sample Length: 39.3 in.  
Power Supply: Agilent E3634A DC Power Supply  
Voltage: 12.00 VDC  
Current: 0.379 A  
Power Consumption: 4.5 W

**Test Date**

11/21/2019

**Prepared By**

Olivia Tanguileg, Electrical Engineer

**Approved By**

Andrew Lassen, Compliance Manager

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 the Elemental LED, Inc. Innovation Lab.
# Integrating Sphere

## SUMMARY OF RESULTS

<table>
<thead>
<tr>
<th>Metric</th>
<th>Test</th>
<th>Reference</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>$R_f$</td>
<td>96</td>
<td>100</td>
<td>IES TM-30-15 Fidelity Index</td>
</tr>
<tr>
<td>$R_g$</td>
<td>101</td>
<td>100</td>
<td>IES TM-30-15 Gamut Index</td>
</tr>
<tr>
<td>$R_g$ (CRI)</td>
<td>98</td>
<td>100</td>
<td>CIE Test Color Method General Index</td>
</tr>
<tr>
<td>$R_g$</td>
<td>99</td>
<td>100</td>
<td>CIE Test Color Method Sample Nine Score</td>
</tr>
<tr>
<td>LER</td>
<td>266</td>
<td>178</td>
<td>Luminous Efficacy of Radiation</td>
</tr>
<tr>
<td>Lumens</td>
<td>357</td>
<td>1852</td>
<td>Luminous Flux</td>
</tr>
<tr>
<td>$R_{f, skin}$</td>
<td>96</td>
<td>100</td>
<td>Average of CES15 and CES18 (skin)</td>
</tr>
</tbody>
</table>

## COLOR RENDERING INDEX

### SOURCE PROPERTIES

<table>
<thead>
<tr>
<th>Source</th>
<th>Chromaticity</th>
<th>Spectral Power Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>97.7</td>
<td></td>
</tr>
<tr>
<td>R2</td>
<td>99.2</td>
<td></td>
</tr>
<tr>
<td>R3</td>
<td>98.4</td>
<td></td>
</tr>
<tr>
<td>R4</td>
<td>96.3</td>
<td></td>
</tr>
<tr>
<td>R5</td>
<td>97.7</td>
<td></td>
</tr>
<tr>
<td>R6</td>
<td>97.5</td>
<td></td>
</tr>
<tr>
<td>R7</td>
<td>99.8</td>
<td></td>
</tr>
<tr>
<td>R8</td>
<td>99.5</td>
<td></td>
</tr>
<tr>
<td>R9</td>
<td>99.3</td>
<td></td>
</tr>
<tr>
<td>R10</td>
<td>97.9</td>
<td></td>
</tr>
<tr>
<td>R11</td>
<td>93.2</td>
<td></td>
</tr>
<tr>
<td>R12</td>
<td>92.1</td>
<td></td>
</tr>
<tr>
<td>R13</td>
<td>97.9</td>
<td></td>
</tr>
<tr>
<td>R14</td>
<td>98.6</td>
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</tr>
</tbody>
</table>

### SOURCE CHROMATICITY COMPARISON

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

### SPECTRAL POWER DISTRIBUTION COMPARISON

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

### CES CHROMATICITY COMPARISON

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

### COLOR VECTOR GRAPHIC

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.
COLOR SAMPLE COMPARISON (APPROXIMATION)

NOTE: CES stands for "Color Evaluation Sample", these 99 samples are used in place of the 16 R values. The colors shown 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. For each sample, the color on the left represents the reference source, and the color on the right represents the test source.

Sample Type:
A - Nature
B - Skin
C - Textiles
D - Paints

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Elemental</th>
<th>Competitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Nature</td>
<td>Ref</td>
<td>Test</td>
</tr>
<tr>
<td>B Skin</td>
<td>Type A</td>
<td>Type F</td>
</tr>
<tr>
<td>C Textiles</td>
<td>Type C</td>
<td>Type F</td>
</tr>
<tr>
<td>D Paints</td>
<td>Type F</td>
<td>Type F</td>
</tr>
</tbody>
</table>

Ref Test
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.

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.
Goniophotometer Test

SUMMARY OF RESULTS

Luminaire: BLAZE™ X 100 12V Wet Location LED Strip Light
SKU: DI-12V-BLX1-35-W***
Luminous Flux: 360 Lumens
Power Consumption: 4.54 Watts
Efficacy: 79.29 Lumens/Watt
Spacing Criterion (0-180): 1.2
Spacing Criterion (90-270): 1.26

*Graphs below are for reference, full IES files are available on Diode LED website*

DISTRIBUTION CHARTS AND TABLES

<table>
<thead>
<tr>
<th>Zone</th>
<th>Lumens</th>
<th>%Luminaire</th>
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<tbody>
<tr>
<td>0-20</td>
<td>49.06</td>
<td>13.60</td>
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<td>0-30</td>
<td>103.68</td>
<td>28.80</td>
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<tr>
<td>0-40</td>
<td>167.91</td>
<td>46.60</td>
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<tr>
<td>0-60</td>
<td>288.58</td>
<td>80.20</td>
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<tr>
<td>0-80</td>
<td>350.20</td>
<td>97.30</td>
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<tr>
<td>0-90</td>
<td>359.95</td>
<td>100.00</td>
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<td>20-40</td>
<td>118.85</td>
<td>33.00</td>
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<tr>
<td>20-50</td>
<td>183.15</td>
<td>50.90</td>
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<td>40-70</td>
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<tr>
<td>60-80</td>
<td>61.62</td>
<td>17.10</td>
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<tr>
<td>70-80</td>
<td>22.52</td>
<td>6.30</td>
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<td>80-90</td>
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<td>2.70</td>
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<tr>
<td>90-180</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>0-180</td>
<td>359.95</td>
<td>100.00</td>
</tr>
</tbody>
</table>

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