

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: INVUE

Report Number: P366776

Luminaire Tested: **MSA-SA1B-740-U-5NQ**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366776  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1B-740-U-5NQ  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5182 lumens  
Efficiency: N/A  
Efficacy: 117.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B2 - U0 - G1

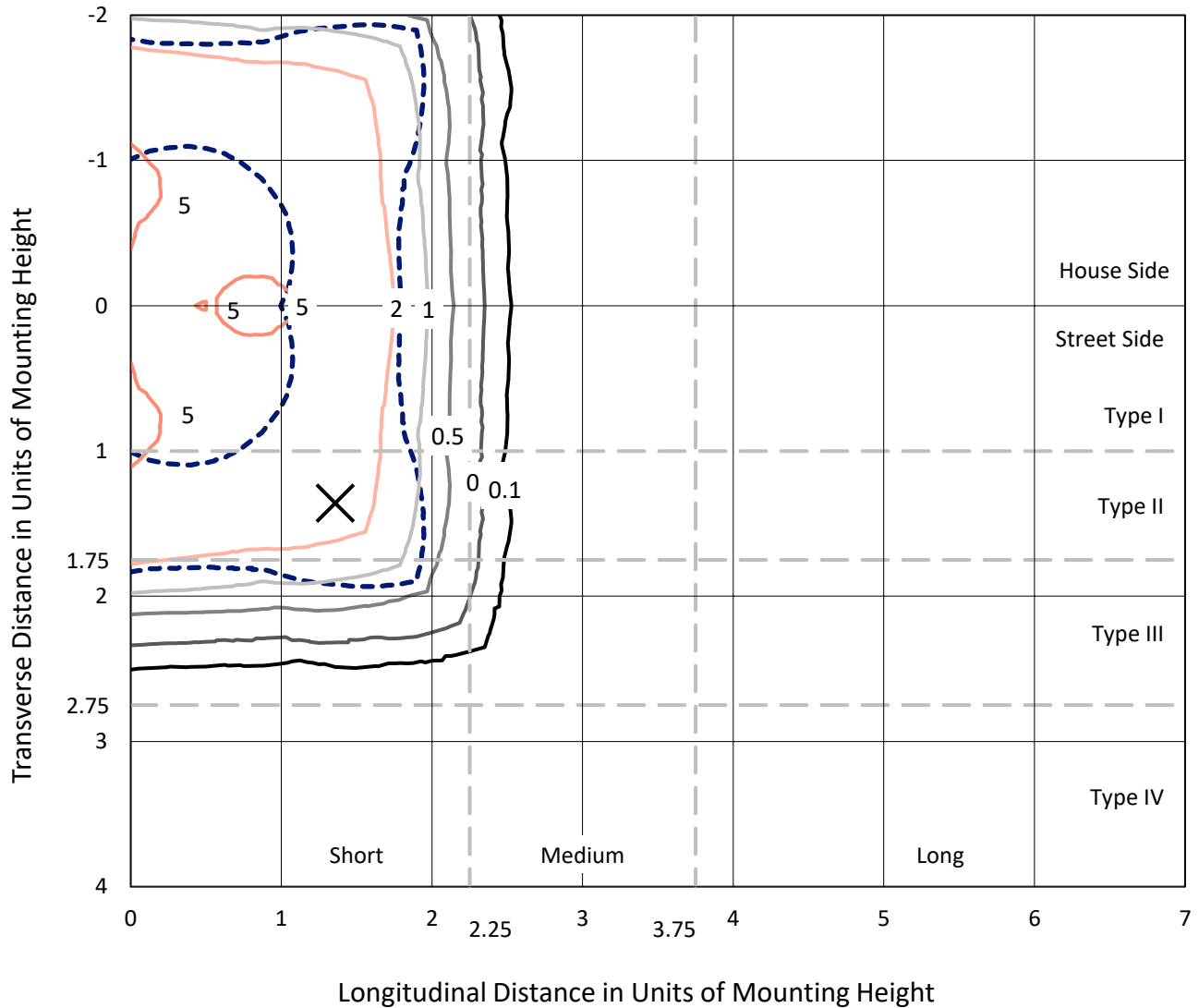
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

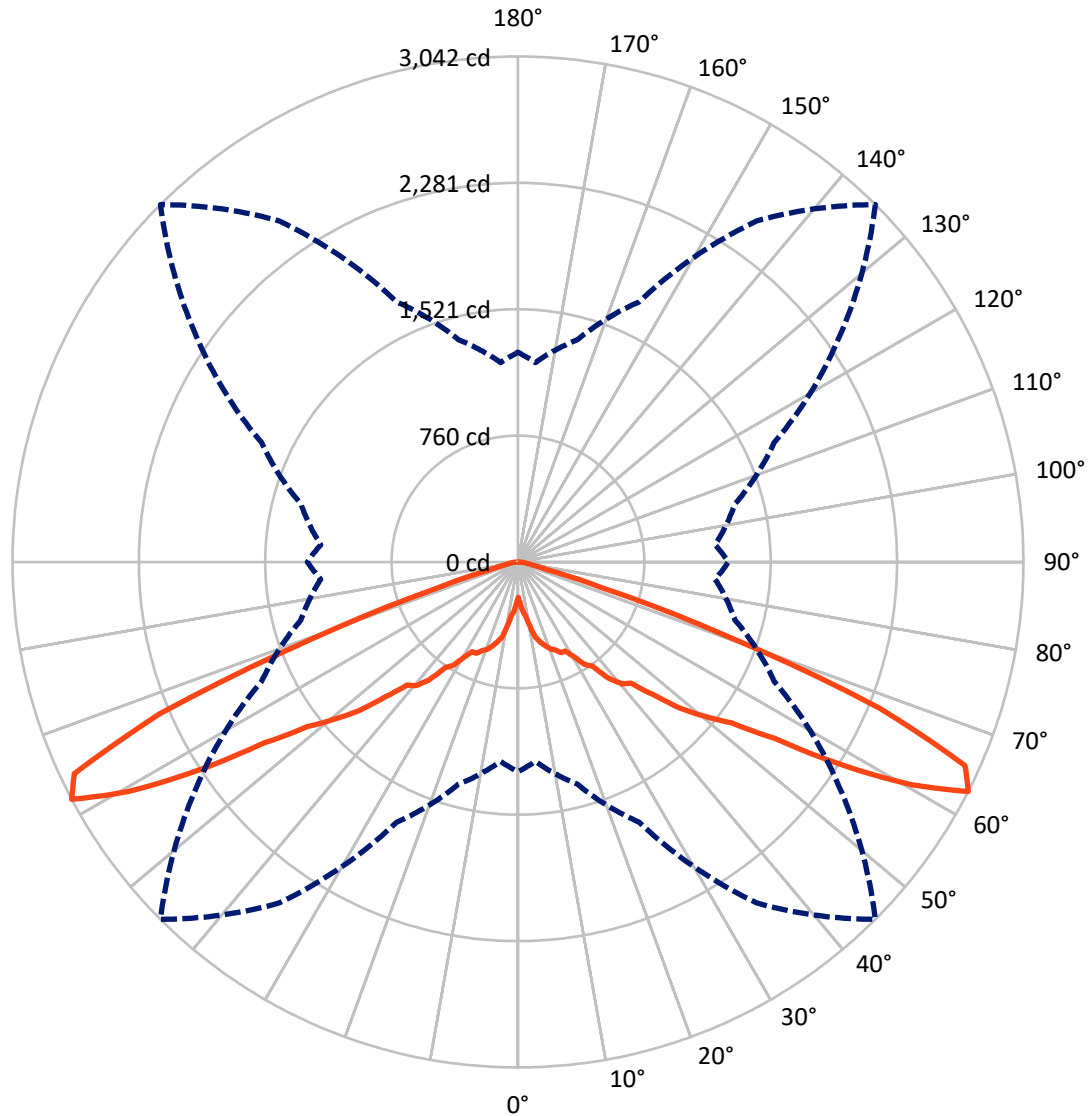
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.6 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2591.0   | 0.0    | 2591.0 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Street Side</b> | Lumens    | 2591.0   | 0.0    | 2591.0 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Total</b>       | Lumens    | 5182.0   | 0.0    | 5182.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 31.9   | 0.6       |
| 10°-20°   | 140.8  | 2.7       |
| 20°-30°   | 295.1  | 5.7       |
| 30°-40°   | 556.0  | 10.7      |
| 40°-50°   | 1009.2 | 19.5      |
| 50°-60°   | 1705.1 | 32.9      |
| 60°-70°   | 1274.7 | 24.6      |
| 70°-80°   | 142.6  | 2.8       |
| 80°-90°   | 26.5   | 0.5       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-90°    | 5182.0 | 100.0     |
| 0°-180°   | 5182.0 | 100.0     |

**Coefficient of Utilization**

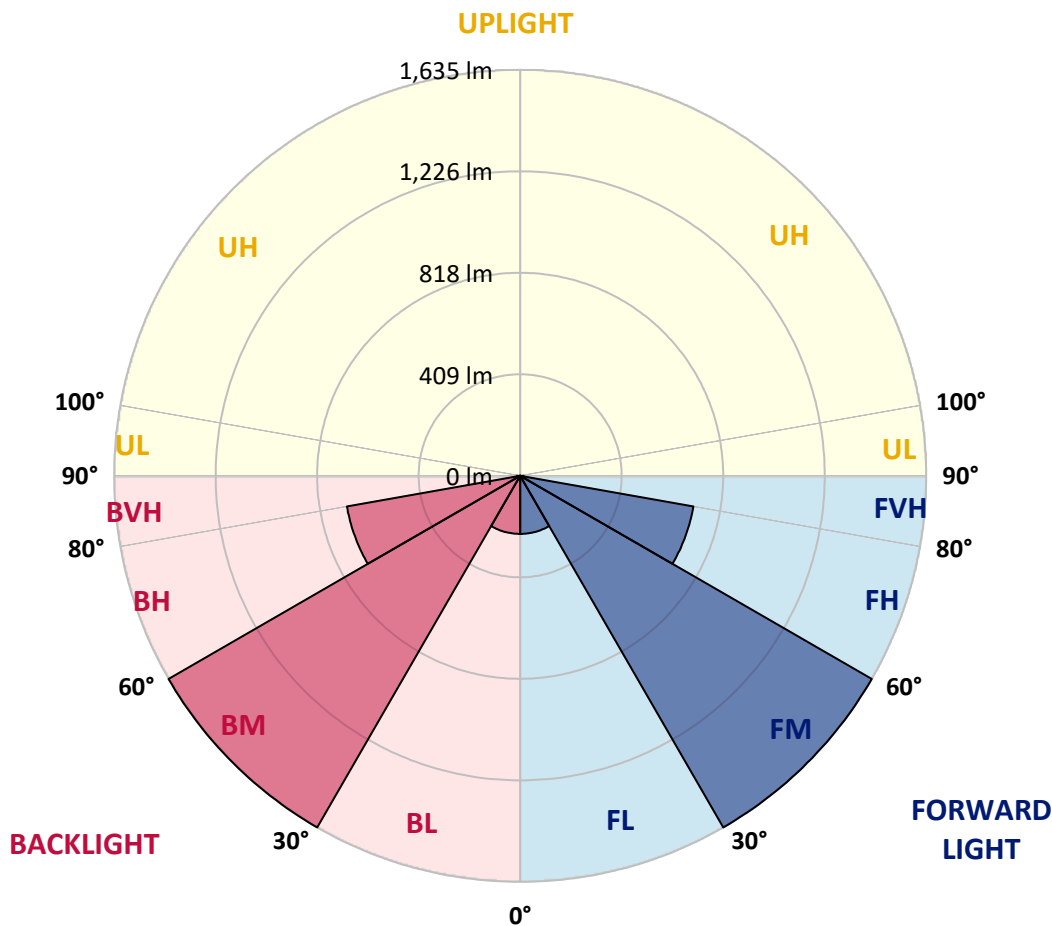


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 233.9  | 4.5       |                         |      |         |
| FM (30°-60°)   | 1635.2 | 31.6      |                         |      |         |
| FH (60°-80°)   | 708.7  | 13.7      |                         |      | G1/1800 |
| FVH (80°-90°)  | 13.3   | 0.3       |                         |      | G1/100  |
| BL (0°-30°)    | 233.9  | 4.5       | B1/500                  |      |         |
| BM (30°-60°)   | 1635.2 | 31.6      | B2/2500                 |      |         |
| BH (60°-80°)   | 708.7  | 13.7      | B2/1000                 |      | G1/1800 |
| BVH (80°-90°)  | 13.3   | 0.3       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G1**  
 Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 211.9  | 211.9  | 211.9  | 211.9  | 211.9  | 211.9  | 211.9  | 211.9  | 211.9  | 211.9  | 211.9  |
| 2.5°  | 257.6  | 253.0  | 236.8  | 242.4  | 248.4  | 247.5  | 246.0  | 241.6  | 237.6  | 254.3  | 257.6  |
| 5°    | 328.5  | 317.9  | 312.2  | 307.6  | 306.5  | 295.2  | 310.8  | 309.1  | 314.3  | 323.2  | 331.8  |
| 7.5°  | 385.0  | 375.1  | 360.1  | 356.9  | 339.8  | 327.2  | 340.7  | 357.3  | 362.6  | 378.9  | 388.5  |
| 10°   | 405.6  | 397.0  | 399.7  | 385.6  | 384.8  | 388.3  | 385.4  | 389.2  | 403.1  | 401.2  | 408.4  |
| 12.5° | 452.0  | 453.5  | 444.6  | 441.0  | 448.2  | 463.8  | 450.5  | 445.9  | 442.5  | 456.9  | 461.3  |
| 15°   | 495.4  | 504.1  | 489.5  | 487.2  | 484.3  | 498.8  | 484.5  | 491.4  | 497.5  | 500.5  | 498.8  |
| 17.5° | 557.0  | 557.4  | 541.2  | 515.3  | 525.0  | 529.6  | 523.3  | 511.2  | 540.1  | 554.7  | 555.5  |
| 20°   | 597.5  | 599.0  | 566.9  | 526.4  | 553.8  | 558.1  | 554.9  | 529.8  | 568.2  | 592.4  | 591.4  |
| 22.5° | 641.1  | 636.1  | 592.6  | 563.1  | 572.8  | 575.3  | 568.6  | 565.4  | 592.4  | 636.5  | 629.9  |
| 25°   | 670.4  | 679.7  | 636.5  | 617.5  | 609.3  | 603.4  | 612.0  | 613.7  | 641.3  | 681.4  | 659.2  |
| 27.5° | 740.4  | 724.4  | 656.7  | 663.9  | 646.4  | 606.5  | 644.5  | 665.4  | 659.5  | 727.8  | 744.4  |
| 30°   | 802.6  | 803.0  | 708.2  | 721.9  | 689.4  | 657.1  | 698.2  | 728.4  | 721.0  | 808.5  | 792.7  |
| 32.5° | 882.1  | 885.0  | 796.9  | 760.2  | 738.3  | 732.2  | 727.1  | 760.4  | 806.4  | 877.2  | 878.7  |
| 35°   | 967.9  | 993.2  | 873.4  | 834.9  | 797.5  | 770.6  | 799.7  | 845.8  | 875.8  | 989.0  | 968.9  |
| 37.5° | 1135.1 | 1092.5 | 994.5  | 921.9  | 898.1  | 887.4  | 902.7  | 929.5  | 994.2  | 1091.9 | 1126.2 |
| 40°   | 1234.0 | 1222.1 | 1088.7 | 1028.0 | 936.1  | 964.7  | 956.3  | 1029.7 | 1083.2 | 1228.9 | 1232.1 |
| 42.5° | 1385.1 | 1325.7 | 1205.7 | 1128.5 | 1045.9 | 996.1  | 1048.8 | 1147.3 | 1212.0 | 1335.1 | 1393.3 |
| 45°   | 1504.7 | 1428.3 | 1335.8 | 1277.2 | 1172.8 | 1135.9 | 1154.9 | 1281.0 | 1362.1 | 1446.7 | 1523.2 |
| 47.5° | 1636.8 | 1554.2 | 1461.6 | 1357.5 | 1255.7 | 1315.8 | 1282.2 | 1393.1 | 1472.4 | 1593.6 | 1665.3 |
| 50°   | 1803.0 | 1711.5 | 1593.0 | 1507.0 | 1439.5 | 1460.6 | 1455.3 | 1534.4 | 1632.2 | 1742.7 | 1824.0 |
| 52.5° | 1986.0 | 1882.4 | 1768.2 | 1688.3 | 1659.8 | 1607.5 | 1675.8 | 1708.3 | 1780.4 | 1881.6 | 1977.1 |
| 55°   | 2113.9 | 2010.4 | 1941.3 | 1967.0 | 1959.4 | 1875.5 | 1935.4 | 1938.7 | 1904.0 | 1940.4 | 2036.6 |
| 57.5° | 2094.1 | 1995.2 | 1985.8 | 2082.9 | 2228.2 | 2309.4 | 2216.8 | 2017.8 | 1887.5 | 1870.4 | 1972.3 |
| 60°   | 1831.0 | 1746.5 | 1833.3 | 2052.6 | 2475.7 | 2722.8 | 2366.5 | 1958.1 | 1743.5 | 1654.8 | 1753.0 |
| 62.5° | 1261.8 | 1204.6 | 1384.7 | 1727.5 | 2505.4 | 3041.8 | 2361.0 | 1701.6 | 1352.2 | 1191.2 | 1267.5 |
| 65°   | 598.1  | 577.4  | 729.5  | 1095.2 | 2086.9 | 2956.6 | 2062.7 | 1151.3 | 778.4  | 621.7  | 639.0  |
| 67.5° | 224.9  | 214.6  | 267.7  | 483.8  | 1314.5 | 2345.0 | 1386.6 | 568.0  | 301.1  | 234.0  | 242.0  |
| 70°   | 127.8  | 120.4  | 127.3  | 176.5  | 529.2  | 1328.2 | 598.1  | 194.8  | 128.0  | 116.6  | 124.2  |
| 72.5° | 100.6  | 94.9   | 95.9   | 106.7  | 182.6  | 521.4  | 193.5  | 111.1  | 93.0   | 88.3   | 95.1   |
| 75°   | 83.1   | 78.0   | 77.8   | 83.7   | 106.5  | 169.3  | 109.4  | 85.0   | 75.3   | 71.9   | 77.4   |
| 77.5° | 66.0   | 63.0   | 63.9   | 68.5   | 76.3   | 94.7   | 79.3   | 68.7   | 61.8   | 57.8   | 61.6   |
| 80°   | 48.3   | 47.9   | 51.2   | 55.4   | 56.9   | 63.7   | 59.5   | 55.4   | 49.3   | 43.6   | 45.1   |
| 82.5° | 31.6   | 31.8   | 38.2   | 41.5   | 40.9   | 40.7   | 42.6   | 42.4   | 36.9   | 28.9   | 28.9   |
| 85°   | 18.1   | 18.6   | 23.4   | 26.1   | 25.7   | 20.4   | 27.0   | 27.2   | 23.6   | 17.5   | 16.9   |
| 87.5° | 5.9    | 7.4    | 10.1   | 10.8   | 10.3   | 5.7    | 10.3   | 11.4   | 10.3   | 7.4    | 6.5    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)