

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: P368338

Luminaire Tested: **MSA-SA4B-730-U-5NQ**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368338  
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-SA4B-730-U-5NQ  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 18106 lumens  
Efficiency: N/A  
Efficacy: 105.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B4 - U0 - G2

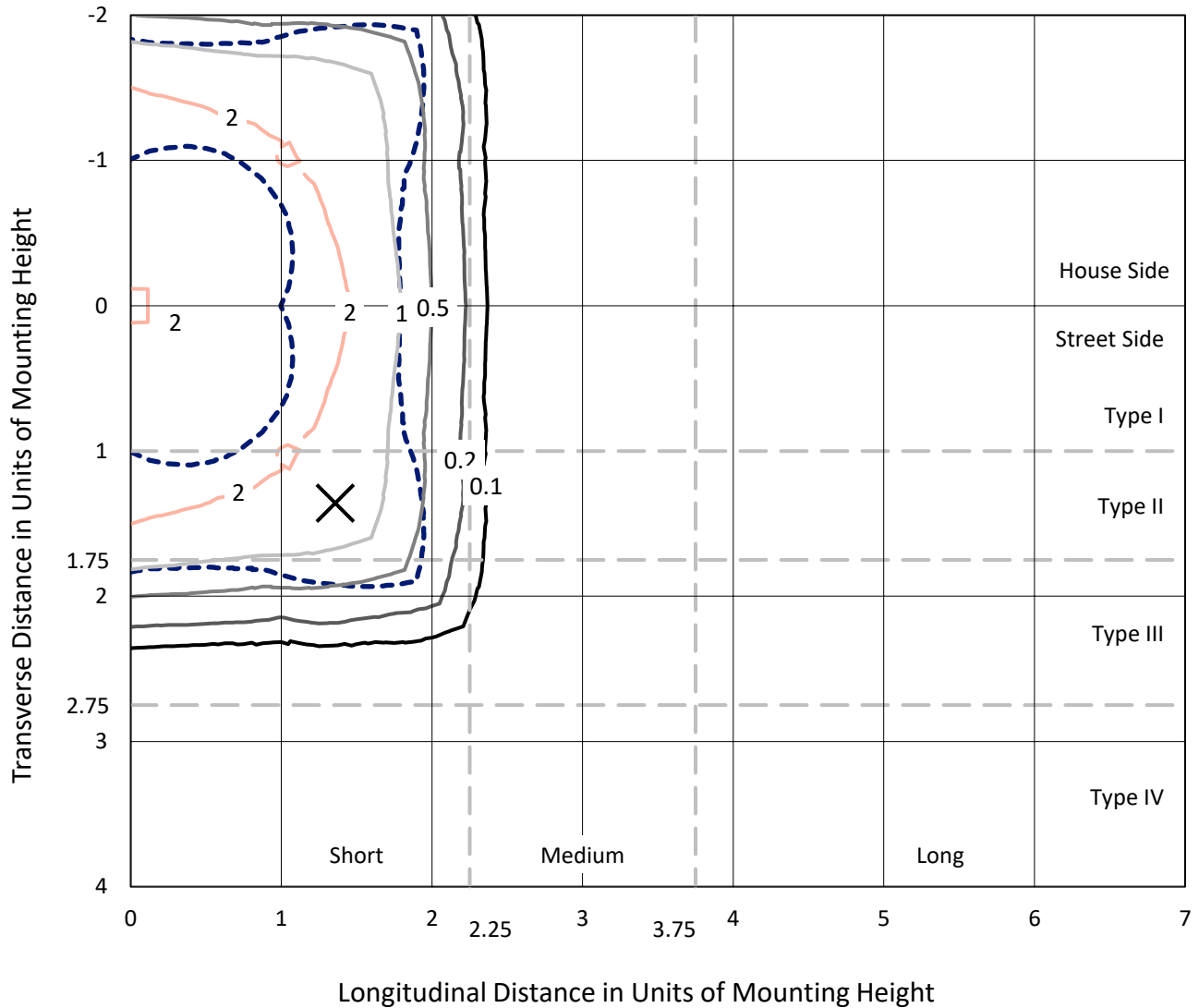
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

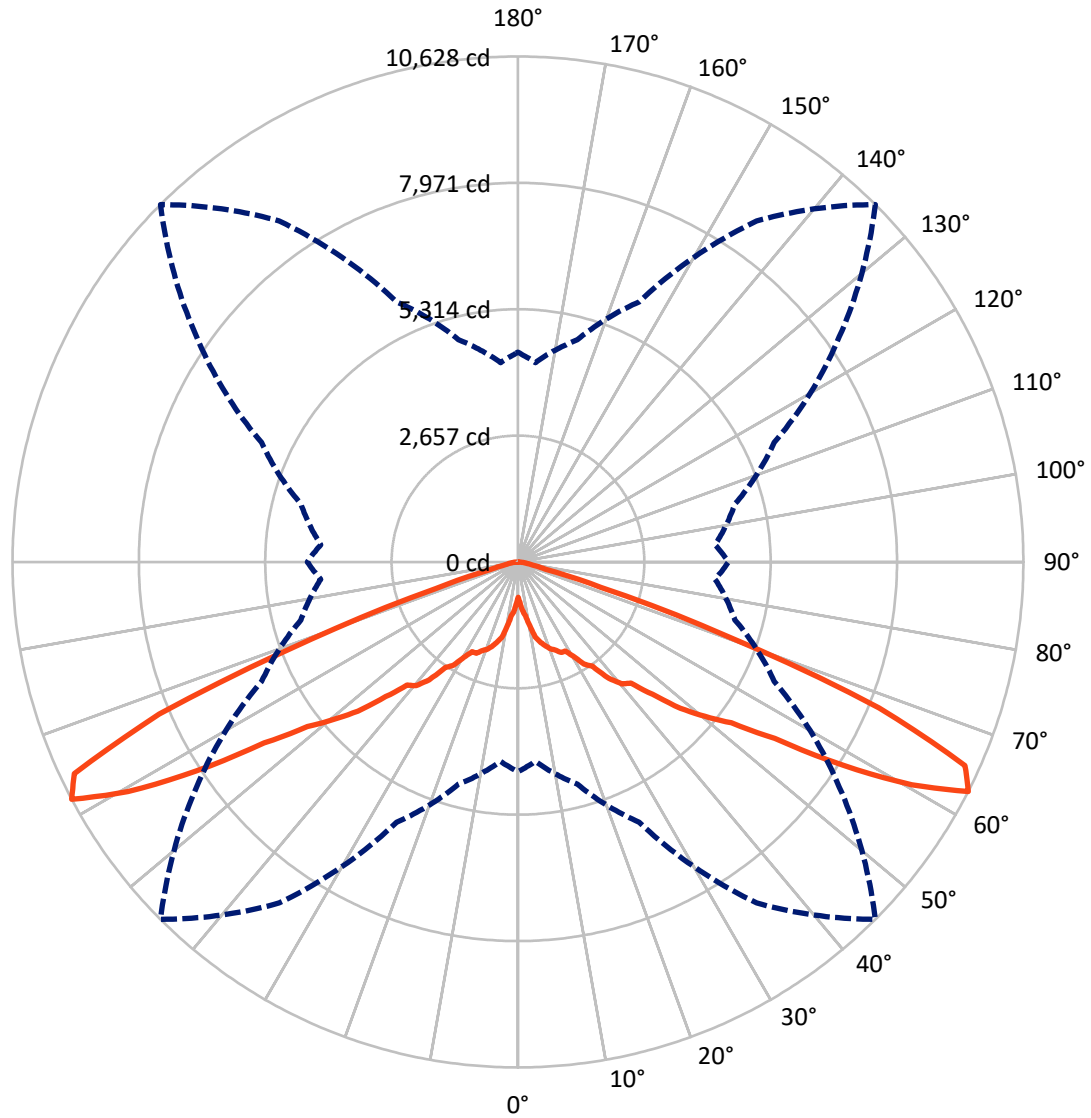
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 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    | 9053.0   | 0.0    | 9053.0  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 9053.0   | 0.0    | 9053.0  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 18106.0  | 0.0    | 18106.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 111.6   | 0.6       |
| 10°-20°   | 492.0   | 2.7       |
| 20°-30°   | 1031.1  | 5.7       |
| 30°-40°   | 1942.8  | 10.7      |
| 40°-50°   | 3526.0  | 19.5      |
| 50°-60°   | 5957.8  | 32.9      |
| 60°-70°   | 4453.8  | 24.6      |
| 70°-80°   | 498.3   | 2.8       |
| 80°-90°   | 92.7    | 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°    | 18106.0 | 100.0     |
| 0°-180°   | 18106.0 | 100.0     |

**Coefficient of Utilization**



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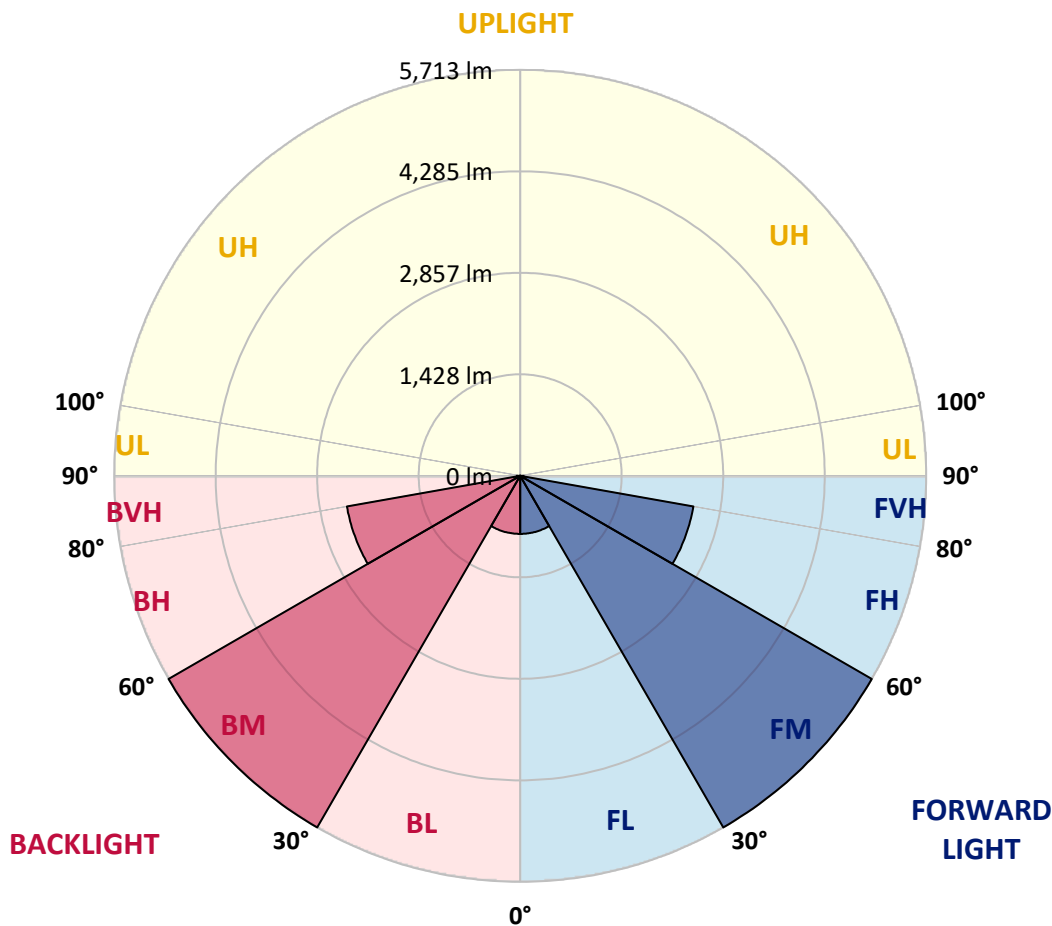
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 817.3  | 4.5       |                         |      |         |
| FM (30°-60°)   | 5713.3 | 31.6      |                         |      |         |
| FH (60°-80°)   | 2476.0 | 13.7      |                         |      | G2/5000 |
| FVH (80°-90°)  | 46.4   | 0.3       |                         |      | G1/100  |
| BL (0°-30°)    | 817.3  | 4.5       | B2/1000                 |      |         |
| BM (30°-60°)   | 5713.3 | 31.6      | B4/8500                 |      |         |
| BH (60°-80°)   | 2476.0 | 13.7      | B3/2500                 |      | G2/5000 |
| BVH (80°-90°)  | 46.4   | 0.3       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B4-U0-G2**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°     | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|
| 0°    | 740.3  | 740.3  | 740.3  | 740.3  | 740.3  | 740.3   | 740.3  | 740.3  | 740.3  | 740.3  | 740.3  |
| 2.5°  | 900.2  | 883.9  | 827.2  | 847.1  | 867.7  | 864.8   | 859.6  | 844.2  | 830.2  | 888.4  | 900.2  |
| 5°    | 1147.7 | 1110.8 | 1090.9 | 1074.7 | 1071.0 | 1031.3  | 1085.8 | 1079.9 | 1098.3 | 1129.2 | 1159.4 |
| 7.5°  | 1345.1 | 1310.5 | 1258.2 | 1247.1 | 1187.4 | 1143.2  | 1190.4 | 1248.6 | 1267.0 | 1323.7 | 1357.6 |
| 10°   | 1417.3 | 1387.1 | 1396.6 | 1347.3 | 1344.3 | 1356.9  | 1346.5 | 1359.8 | 1408.4 | 1401.8 | 1426.8 |
| 12.5° | 1579.3 | 1584.5 | 1553.5 | 1541.0 | 1566.1 | 1620.6  | 1574.2 | 1558.0 | 1546.2 | 1596.3 | 1611.7 |
| 15°   | 1731.1 | 1761.3 | 1710.4 | 1702.3 | 1692.0 | 1742.8  | 1692.8 | 1717.1 | 1738.4 | 1748.7 | 1742.8 |
| 17.5° | 1946.2 | 1947.6 | 1890.9 | 1800.3 | 1834.2 | 1850.4  | 1828.3 | 1786.3 | 1887.2 | 1938.1 | 1941.0 |
| 20°   | 2087.6 | 2092.7 | 1980.8 | 1839.3 | 1935.1 | 1949.8  | 1938.8 | 1851.1 | 1985.2 | 2069.9 | 2066.2 |
| 22.5° | 2240.1 | 2222.4 | 2070.6 | 1967.5 | 2001.4 | 2010.2  | 1986.7 | 1975.6 | 2069.9 | 2223.9 | 2201.0 |
| 25°   | 2342.5 | 2374.9 | 2223.9 | 2157.6 | 2128.8 | 2108.2  | 2138.4 | 2144.3 | 2240.8 | 2380.8 | 2303.4 |
| 27.5° | 2587.0 | 2531.0 | 2294.6 | 2319.6 | 2258.5 | 2119.3  | 2251.9 | 2324.8 | 2304.2 | 2542.8 | 2601.0 |
| 30°   | 2804.3 | 2805.8 | 2474.3 | 2522.2 | 2408.8 | 2296.1  | 2439.7 | 2545.0 | 2519.3 | 2824.9 | 2769.7 |
| 32.5° | 3082.0 | 3092.3 | 2784.4 | 2656.3 | 2579.7 | 2558.3  | 2540.6 | 2657.0 | 2817.6 | 3065.1 | 3070.2 |
| 35°   | 3381.8 | 3470.2 | 3051.8 | 2917.0 | 2786.6 | 2692.4  | 2794.0 | 2955.3 | 3059.9 | 3455.5 | 3385.5 |
| 37.5° | 3966.0 | 3817.2 | 3474.7 | 3221.3 | 3138.0 | 3100.4  | 3154.2 | 3247.8 | 3473.9 | 3815.0 | 3935.0 |
| 40°   | 4311.5 | 4270.2 | 3803.9 | 3591.8 | 3270.6 | 3370.8  | 3341.3 | 3597.7 | 3784.8 | 4293.8 | 4304.8 |
| 42.5° | 4839.6 | 4631.9 | 4212.7 | 3943.1 | 3654.4 | 3480.5  | 3664.7 | 4008.7 | 4234.8 | 4665.0 | 4868.3 |
| 45°   | 5257.3 | 4990.6 | 4667.2 | 4462.5 | 4097.8 | 3968.9  | 4035.2 | 4475.7 | 4759.3 | 5054.7 | 5322.1 |
| 47.5° | 5719.1 | 5430.4 | 5107.0 | 4743.1 | 4387.3 | 4597.3  | 4480.1 | 4867.6 | 5144.6 | 5568.1 | 5818.6 |
| 50°   | 6299.6 | 5979.9 | 5565.9 | 5265.4 | 5029.7 | 5103.3  | 5084.9 | 5361.1 | 5702.9 | 6088.9 | 6373.3 |
| 52.5° | 6939.0 | 6577.3 | 6178.1 | 5898.9 | 5799.4 | 5616.7  | 5855.4 | 5968.9 | 6220.8 | 6574.4 | 6908.0 |
| 55°   | 7386.1 | 7024.4 | 6782.8 | 6872.7 | 6846.2 | 6553.0  | 6762.2 | 6774.0 | 6652.4 | 6779.9 | 7115.8 |
| 57.5° | 7316.9 | 6971.4 | 6938.3 | 7277.8 | 7785.4 | 8069.0  | 7745.6 | 7050.2 | 6595.0 | 6535.3 | 6891.1 |
| 60°   | 6397.6 | 6102.2 | 6405.7 | 7171.8 | 8650.2 | 9513.5  | 8268.6 | 6841.8 | 6091.9 | 5781.8 | 6125.0 |
| 62.5° | 4408.7 | 4209.1 | 4838.1 | 6035.9 | 8754.0 | 10628.0 | 8249.4 | 5945.3 | 4724.7 | 4161.9 | 4428.6 |
| 65°   | 2089.8 | 2017.6 | 2548.7 | 3826.8 | 7291.8 | 10330.4 | 7207.1 | 4022.7 | 2719.6 | 2172.3 | 2232.7 |
| 67.5° | 786.0  | 749.9  | 935.5  | 1690.5 | 4592.8 | 8193.5  | 4844.8 | 1984.5 | 1051.9 | 817.7  | 845.6  |
| 70°   | 446.4  | 420.6  | 444.9  | 616.6  | 1848.9 | 4640.7  | 2089.8 | 680.6  | 447.1  | 407.4  | 433.9  |
| 72.5° | 351.4  | 331.5  | 335.2  | 372.7  | 637.9  | 1821.7  | 676.2  | 388.2  | 324.9  | 308.6  | 332.2  |
| 75°   | 290.2  | 272.6  | 271.8  | 292.4  | 372.0  | 591.5   | 382.3  | 296.9  | 263.0  | 251.2  | 270.3  |
| 77.5° | 230.6  | 220.3  | 223.2  | 239.4  | 266.7  | 330.7   | 277.0  | 240.1  | 215.8  | 201.8  | 215.1  |
| 80°   | 168.7  | 167.2  | 179.0  | 193.7  | 198.9  | 222.5   | 207.7  | 193.7  | 172.4  | 152.5  | 157.6  |
| 82.5° | 110.5  | 111.2  | 133.3  | 145.1  | 142.9  | 142.2   | 148.8  | 148.1  | 128.9  | 100.9  | 100.9  |
| 85°   | 63.3   | 64.8   | 81.8   | 91.3   | 89.9   | 71.5    | 94.3   | 95.0   | 82.5   | 61.1   | 58.9   |
| 87.5° | 20.6   | 25.8   | 35.4   | 37.6   | 36.1   | 19.9    | 36.1   | 39.8   | 36.1   | 25.8   | 22.8   |
| 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)