

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P880398

Luminaire Tested: **EMM2-HSN-VA5-727-U-MQ**

Issue Date: 10/01/2024



Test Information

Test Method: LM-79-08
Report Number: P880398
Test Lab: INNOVATION CENTER(G3)
Issue Date: 10/01/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: EMM2-HSN-VA5-727-U-MQ
Description: EPIC MODERN SHORT HOUSING 5W 70CRI 2700K VISUAL COMFORT FIXTURE w/
TYPE V MEDIUM DISTRIBUTION OPTIC
Light Source: (1) 2700K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

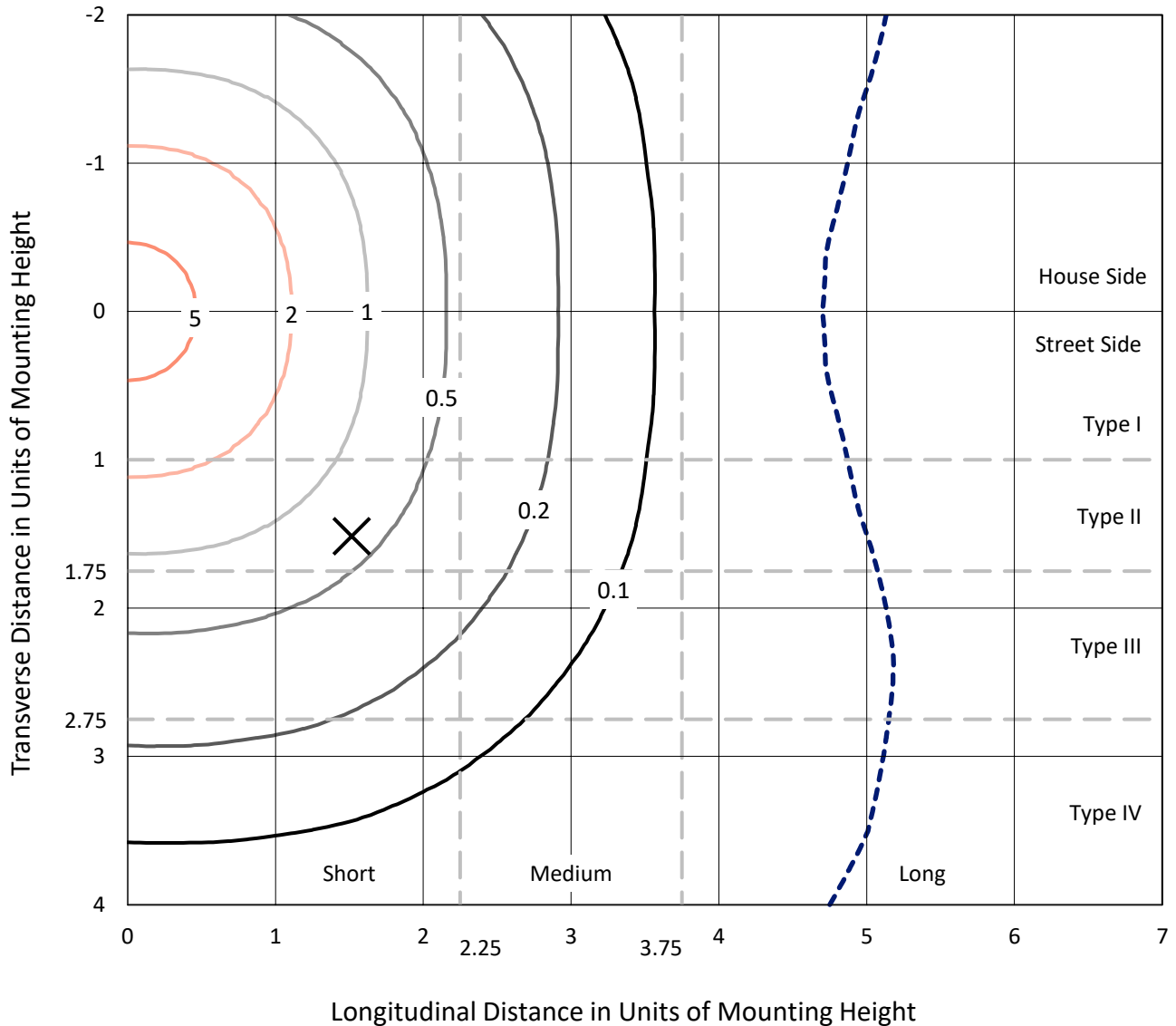
Lumens per Lamp: N/A
Luminaire Lumens: 8309.9 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Luminous Opening: Circular (Dia: 1.12' x H: 0')
IES Classification: Type V - Short
BUG Rating: B3 - U0 - G2

Input Watts (W): 78
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 6%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

REPORT NUMBER: P880398
 CATALOG NUMBER: EMM2-HSN-VA5-727-U-MQ

Iso-Footcandle Lines of Horizontal Illumination

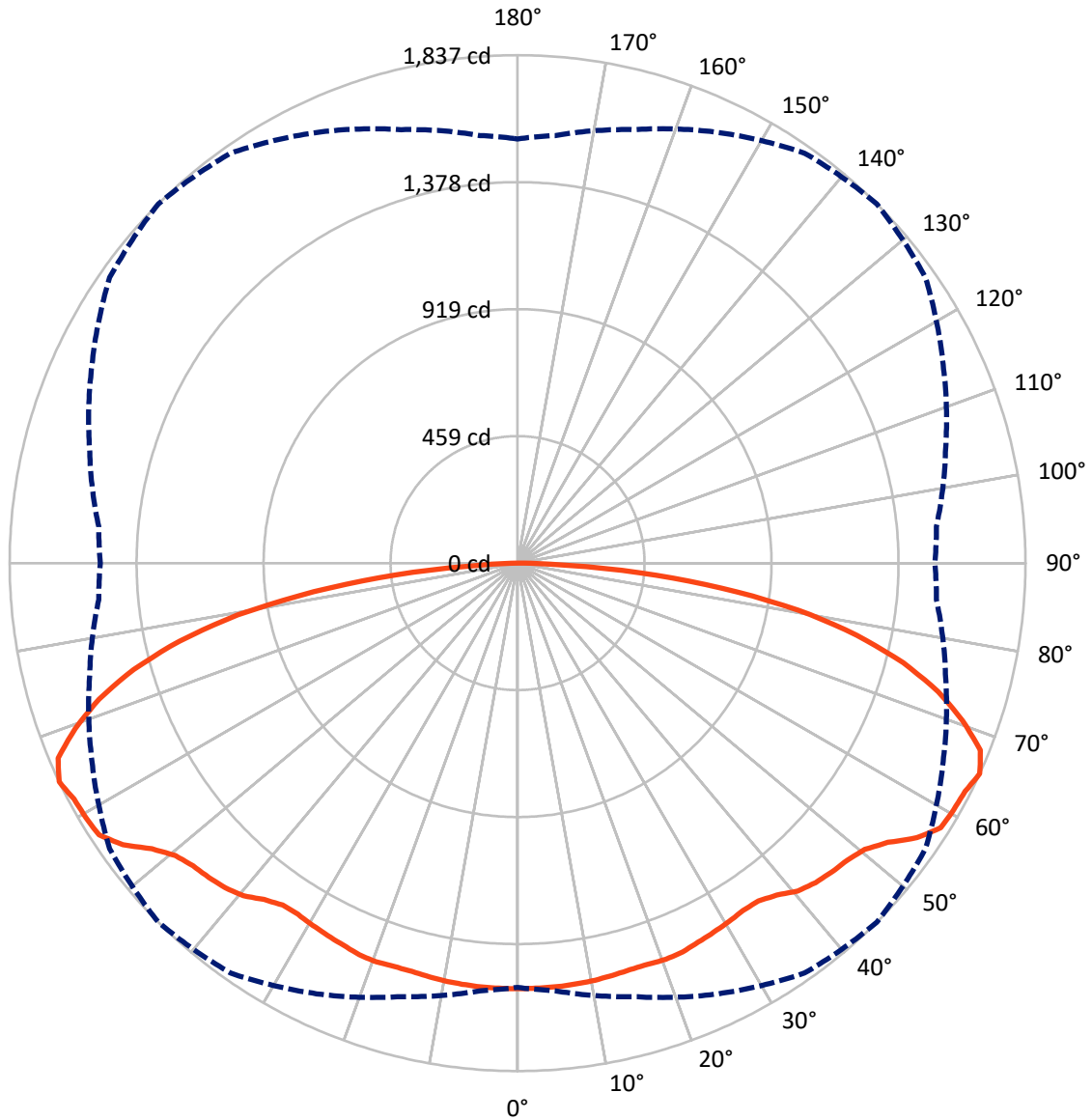
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 6.8 fc
 Type V - Short - N/A

REPORT NUMBER: P880398
CATALOG NUMBER: EMM2-HSN-VA5-727-U-MQ

Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P880398
 CATALOG NUMBER: EMM2-HSN-VA5-727-U-MQ

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 4155.0 | 0.0 | 4155.0 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 4155.0 | 0.0 | 4155.0 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 8309.9 | 0.0 | 8309.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 146.7 | 1.8 |
| 10°-20° | 432.6 | 5.2 |
| 20°-30° | 700.5 | 8.4 |
| 30°-40° | 941.3 | 11.3 |
| 40°-50° | 1201.4 | 14.5 |
| 50°-60° | 1478.0 | 17.8 |
| 60°-70° | 1645.8 | 19.8 |
| 70°-80° | 1335.9 | 16.1 |
| 80°-90° | 427.6 | 5.1 |
| 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° | 8309.9 | 100.0 |
| 0°-180° | 8309.9 | 100.0 |



REPORT NUMBER: P880398

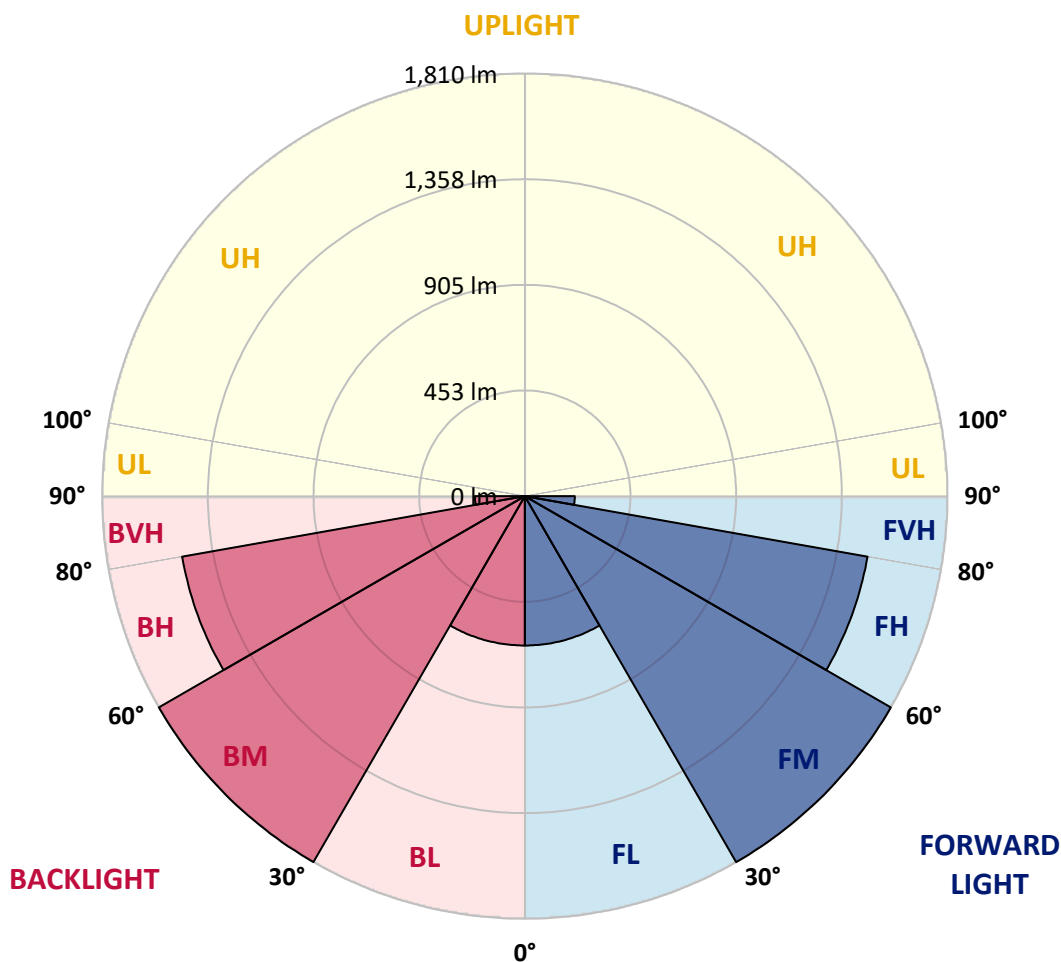
CATALOG NUMBER: EMM2-HSN-VA5-727-U-MQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 639.9 | 7.7 | | | |
| FM (30°-60°) | 1810.4 | 21.8 | | | |
| FH (60°-80°) | 1490.9 | 17.9 | | | G1/1800 |
| FVH (80°-90°) | 213.8 | 2.6 | | | G2/225 |
| BL (0°-30°) | 639.9 | 7.7 | B2/1000 | | |
| BM (30°-60°) | 1810.4 | 21.8 | B2/2500 | | |
| BH (60°-80°) | 1490.9 | 17.9 | B3/2500 | | G1/1800 |
| BVH (80°-90°) | 213.8 | 2.6 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G2

Type V Short





REPORT NUMBER: P880398

CATALOG NUMBER: EMM2-HSN-VA5-727-U-MQ

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 |
| 2.5° | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 |
| 5° | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1539.0 | 1536.7 | 1539.0 | 1539.0 |
| 7.5° | 1536.7 | 1536.7 | 1536.7 | 1536.7 | 1536.7 | 1536.7 | 1536.7 | 1536.7 | 1536.7 | 1536.7 | 1536.7 |
| 10° | 1534.4 | 1534.4 | 1534.4 | 1534.4 | 1534.4 | 1534.4 | 1534.4 | 1534.4 | 1534.4 | 1534.4 | 1534.4 |
| 12.5° | 1529.9 | 1529.9 | 1529.9 | 1529.9 | 1529.9 | 1529.9 | 1529.9 | 1529.9 | 1529.9 | 1529.9 | 1529.9 |
| 15° | 1523.0 | 1525.3 | 1525.3 | 1525.3 | 1525.3 | 1525.3 | 1525.3 | 1525.3 | 1525.3 | 1523.0 | 1523.0 |
| 17.5° | 1520.8 | 1520.8 | 1520.8 | 1523.0 | 1525.3 | 1525.3 | 1525.3 | 1523.0 | 1520.8 | 1518.5 | 1518.5 |
| 20° | 1523.0 | 1523.0 | 1523.0 | 1525.3 | 1527.6 | 1529.9 | 1527.6 | 1525.3 | 1520.8 | 1520.8 | 1520.8 |
| 22.5° | 1520.8 | 1523.0 | 1523.0 | 1525.3 | 1527.6 | 1527.6 | 1525.3 | 1523.0 | 1520.8 | 1518.5 | 1518.5 |
| 25° | 1513.9 | 1513.9 | 1516.2 | 1518.5 | 1518.5 | 1518.5 | 1518.5 | 1513.9 | 1511.7 | 1509.4 | 1509.4 |
| 27.5° | 1504.8 | 1507.1 | 1507.1 | 1509.4 | 1511.7 | 1511.7 | 1509.4 | 1504.8 | 1502.5 | 1500.3 | 1500.3 |
| 30° | 1493.4 | 1493.4 | 1495.7 | 1500.3 | 1502.5 | 1504.8 | 1500.3 | 1495.7 | 1488.9 | 1486.6 | 1486.6 |
| 32.5° | 1482.1 | 1484.3 | 1488.9 | 1493.4 | 1495.7 | 1498.0 | 1493.4 | 1488.9 | 1482.1 | 1477.5 | 1475.2 |
| 35° | 1477.5 | 1477.5 | 1484.3 | 1493.4 | 1500.3 | 1500.3 | 1495.7 | 1486.6 | 1477.5 | 1468.4 | 1468.4 |
| 37.5° | 1484.3 | 1486.6 | 1495.7 | 1511.7 | 1523.0 | 1523.0 | 1520.8 | 1504.8 | 1488.9 | 1475.2 | 1472.9 |
| 40° | 1500.3 | 1502.5 | 1518.5 | 1539.0 | 1557.2 | 1559.5 | 1550.4 | 1529.9 | 1507.1 | 1491.2 | 1486.6 |
| 42.5° | 1509.4 | 1513.9 | 1532.1 | 1557.2 | 1573.1 | 1579.9 | 1568.6 | 1548.1 | 1518.5 | 1498.0 | 1495.7 |
| 45° | 1513.9 | 1518.5 | 1539.0 | 1566.3 | 1586.8 | 1593.6 | 1582.2 | 1554.9 | 1523.0 | 1500.3 | 1498.0 |
| 47.5° | 1516.2 | 1520.8 | 1541.2 | 1575.4 | 1598.2 | 1605.0 | 1595.9 | 1564.0 | 1525.3 | 1502.5 | 1500.3 |
| 50° | 1518.5 | 1527.6 | 1552.6 | 1589.1 | 1623.2 | 1627.8 | 1614.1 | 1575.4 | 1534.4 | 1507.1 | 1500.3 |
| 52.5° | 1534.4 | 1541.2 | 1577.7 | 1630.0 | 1664.2 | 1677.8 | 1657.4 | 1618.7 | 1557.2 | 1516.2 | 1511.7 |
| 55° | 1573.1 | 1575.4 | 1618.7 | 1684.7 | 1734.8 | 1753.0 | 1721.1 | 1668.7 | 1593.6 | 1552.6 | 1550.4 |
| 57.5° | 1584.5 | 1598.2 | 1646.0 | 1721.1 | 1782.6 | 1805.3 | 1778.0 | 1698.3 | 1630.0 | 1575.4 | 1561.7 |
| 60° | 1573.1 | 1584.5 | 1641.4 | 1727.9 | 1793.9 | 1812.2 | 1791.7 | 1716.5 | 1616.4 | 1554.9 | 1543.5 |
| 62.5° | 1561.7 | 1575.4 | 1634.6 | 1732.5 | 1796.2 | 1816.7 | 1782.6 | 1718.8 | 1609.5 | 1548.1 | 1536.7 |
| 65° | 1534.4 | 1552.6 | 1623.2 | 1718.8 | 1809.9 | 1837.2 | 1800.8 | 1698.3 | 1602.7 | 1520.8 | 1509.4 |
| 67.5° | 1482.1 | 1491.2 | 1568.6 | 1680.1 | 1778.0 | 1805.3 | 1766.6 | 1659.6 | 1545.8 | 1466.1 | 1457.0 |
| 70° | 1384.2 | 1404.7 | 1477.5 | 1600.4 | 1693.8 | 1707.4 | 1677.8 | 1570.8 | 1459.3 | 1375.1 | 1363.7 |
| 72.5° | 1254.4 | 1284.0 | 1363.7 | 1488.9 | 1564.0 | 1591.3 | 1552.6 | 1466.1 | 1350.0 | 1254.4 | 1238.5 |
| 75° | 1117.8 | 1133.7 | 1215.7 | 1338.6 | 1416.0 | 1441.1 | 1406.9 | 1322.7 | 1183.8 | 1117.8 | 1101.9 |
| 77.5° | 967.5 | 978.9 | 1051.8 | 1161.1 | 1233.9 | 1254.4 | 1220.2 | 1152.0 | 1026.7 | 965.3 | 958.4 |
| 80° | 758.1 | 780.9 | 849.2 | 942.5 | 997.1 | 1029.0 | 992.6 | 926.6 | 835.5 | 762.7 | 751.3 |
| 82.5° | 541.8 | 557.8 | 619.2 | 683.0 | 735.3 | 744.4 | 728.5 | 664.8 | 596.5 | 539.6 | 525.9 |
| 85° | 296.0 | 302.8 | 341.5 | 407.5 | 428.0 | 443.9 | 421.2 | 373.4 | 339.2 | 302.8 | 291.4 |
| 87.5° | 77.4 | 79.7 | 91.1 | 107.0 | 116.1 | 118.4 | 116.1 | 102.4 | 84.2 | 66.0 | 72.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-176-2

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-727-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-727-U-WQ

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-176-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 09/27/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Streetworks
 Catalog Number: **MEM2-HTN-VA-30-727-U-WQ**
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K): 2691
 CIE u': 0.2627
 CIE v': 0.5285
 Duv: 0.0007
 CIE x: 0.4618
 CIE y: 0.4129
 CIE z: 0.1254
 Peak Wavelength (nm): 601
 Dominant Wavelength (nm): 584
 Purity: 62.54863
 Rf: 70.6
 Rg: 97.2

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 70.6 | | |
| R1: | 67.7 | R9: | -27.1 |
| R2: | 79.8 | R10: | 53.1 |
| R3: | 90.6 | R11: | 61.9 |
| R4: | 67.7 | R12: | 42.2 |
| R5: | 65.3 | R13: | 69.4 |
| R6: | 71.1 | R14: | 94.1 |
| R7: | 78.1 | R15: | 60.4 |
| R8: | 44.7 | | |



Test Conditions

Stabilization Time: 28M
 Operation Time: 1H 28M
 Sphere Temperature (°C): 25.2

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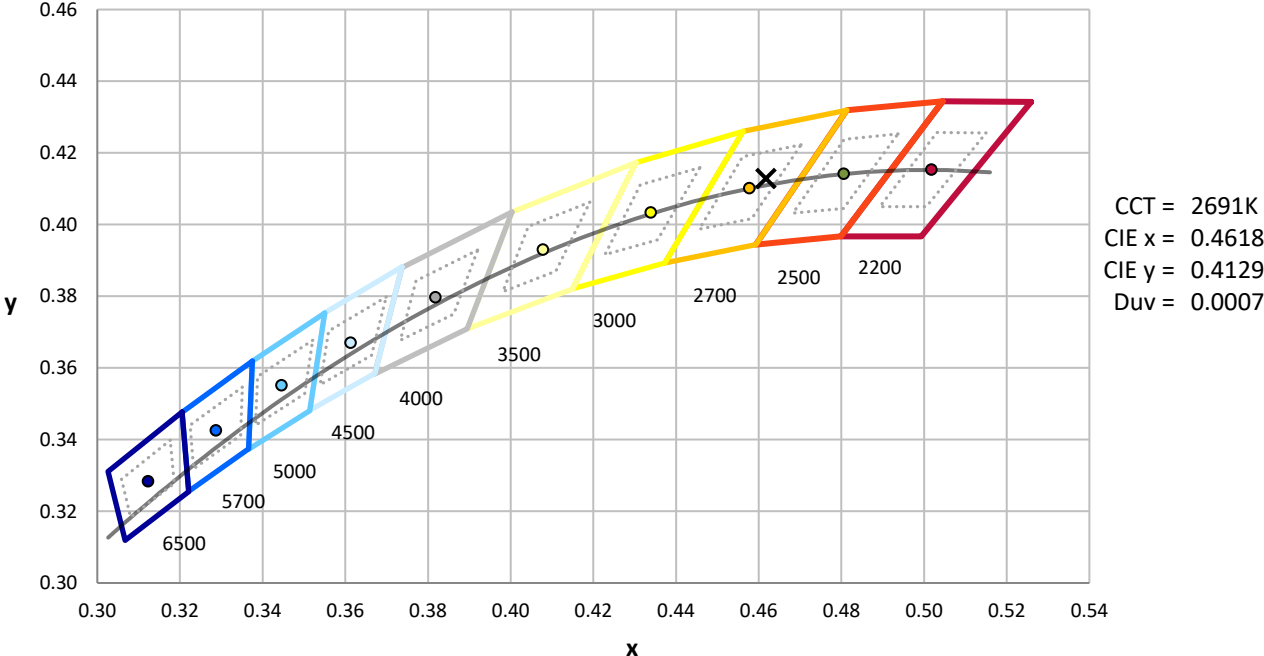
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

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CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-2

Photopic Flux vs. Wavelength



Photopic Lumens: NR

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 43 | NR | 620 | 881 | NR | 750 | 28 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 67 | NR | 625 | 832 | NR | 755 | 25 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 108 | NR | 630 | 776 | NR | 760 | 22 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 165 | NR | 635 | 720 | NR | 765 | 19 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 229 | NR | 640 | 660 | NR | 770 | 16 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 297 | NR | 645 | 599 | NR | 775 | 14 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 357 | NR | 650 | 538 | NR | 780 | 12 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 408 | NR | 655 | 480 | NR | 785 | 10 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 451 | NR | 660 | 423 | NR | 790 | 9 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 488 | NR | 665 | 372 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 10 | NR | 540 | 521 | NR | 670 | 325 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 555 | NR | 675 | 282 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 46 | NR | 550 | 590 | NR | 680 | 246 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 94 | NR | 555 | 631 | NR | 685 | 213 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 169 | NR | 560 | 677 | NR | 690 | 185 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 268 | NR | 565 | 728 | NR | 695 | 158 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 354 | NR | 570 | 782 | NR | 700 | 136 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 445 | NR | 575 | 838 | NR | 705 | 116 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 411 | NR | 580 | 891 | NR | 710 | 98 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 210 | NR | 585 | 935 | NR | 715 | 82 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 119 | NR | 590 | 972 | NR | 720 | 68 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 84 | NR | 595 | 991 | NR | 725 | 56 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 50 | NR | 600 | 997 | NR | 730 | 47 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 35 | NR | 605 | 988 | NR | 735 | 40 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 32 | NR | 610 | 965 | NR | 740 | 35 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 33 | NR | 615 | 927 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

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Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.03

| λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) |
|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|
| 360 | 0 | NR | 490 | 43 | NR | 620 | 881 | NR | 750 | 28 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 67 | NR | 625 | 832 | NR | 755 | 25 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 108 | NR | 630 | 776 | NR | 760 | 22 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 165 | NR | 635 | 720 | NR | 765 | 19 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 229 | NR | 640 | 660 | NR | 770 | 16 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 297 | NR | 645 | 599 | NR | 775 | 14 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 357 | NR | 650 | 538 | NR | 780 | 12 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 408 | NR | 655 | 480 | NR | 785 | 10 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 451 | NR | 660 | 423 | NR | 790 | 9 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 488 | NR | 665 | 372 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 10 | NR | 540 | 521 | NR | 670 | 325 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 555 | NR | 675 | 282 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 46 | NR | 550 | 590 | NR | 680 | 246 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 94 | NR | 555 | 631 | NR | 685 | 213 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 169 | NR | 560 | 677 | NR | 690 | 185 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 268 | NR | 565 | 728 | NR | 695 | 158 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 354 | NR | 570 | 782 | NR | 700 | 136 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 445 | NR | 575 | 838 | NR | 705 | 116 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 411 | NR | 580 | 891 | NR | 710 | 98 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 210 | NR | 585 | 935 | NR | 715 | 82 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 119 | NR | 590 | 972 | NR | 720 | 68 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 84 | NR | 595 | 991 | NR | 725 | 56 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 50 | NR | 600 | 997 | NR | 730 | 47 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 35 | NR | 605 | 988 | NR | 735 | 40 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 32 | NR | 610 | 965 | NR | 740 | 35 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 33 | NR | 615 | 927 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-176-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 1.73

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 43 | NR | 620 | 881 | NR | 750 | 28 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 67 | NR | 625 | 832 | NR | 755 | 25 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 108 | NR | 630 | 776 | NR | 760 | 22 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 165 | NR | 635 | 720 | NR | 765 | 19 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 229 | NR | 640 | 660 | NR | 770 | 16 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 297 | NR | 645 | 599 | NR | 775 | 14 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 357 | NR | 650 | 538 | NR | 780 | 12 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 408 | NR | 655 | 480 | NR | 785 | 10 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 451 | NR | 660 | 423 | NR | 790 | 9 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 488 | NR | 665 | 372 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 10 | NR | 540 | 521 | NR | 670 | 325 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 555 | NR | 675 | 282 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 46 | NR | 550 | 590 | NR | 680 | 246 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 94 | NR | 555 | 631 | NR | 685 | 213 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 169 | NR | 560 | 677 | NR | 690 | 185 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 268 | NR | 565 | 728 | NR | 695 | 158 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 354 | NR | 570 | 782 | NR | 700 | 136 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 445 | NR | 575 | 838 | NR | 705 | 116 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 411 | NR | 580 | 891 | NR | 710 | 98 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 210 | NR | 585 | 935 | NR | 715 | 82 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 119 | NR | 590 | 972 | NR | 720 | 68 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 84 | NR | 595 | 991 | NR | 725 | 56 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 50 | NR | 600 | 997 | NR | 730 | 47 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 35 | NR | 605 | 988 | NR | 735 | 40 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 32 | NR | 610 | 965 | NR | 740 | 35 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 33 | NR | 615 | 927 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

Summary

$R_f = 70.6$
 $R_g = 97.2$
 CIE $R_a = 70.6$
 $R_9 = -27.1$



Color Vector Graphics



Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 57 | CES51 = 79 | CES76 = 50 |
| CES02 = 63 | CES27 = 80 | CES52 = 81 | CES77 = 76 |
| CES03 = 31 | CES28 = 81 | CES53 = 68 | CES78 = 56 |
| CES04 = 71 | CES29 = 49 | CES54 = 80 | CES79 = 83 |
| CES05 = 50 | CES30 = 56 | CES55 = 78 | CES80 = 81 |
| CES06 = 52 | CES31 = 55 | CES56 = 66 | CES81 = 71 |
| CES07 = 42 | CES32 = 52 | CES57 = 64 | CES82 = 92 |
| CES08 = 41 | CES33 = 58 | CES58 = 67 | CES83 = 85 |
| CES09 = 29 | CES34 = 69 | CES59 = 84 | CES84 = 89 |
| CES10 = 77 | CES35 = 84 | CES60 = 91 | CES85 = 81 |
| CES11 = 60 | CES36 = 88 | CES61 = 84 | CES86 = 62 |
| CES12 = 66 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 44 | CES38 = 64 | CES63 = 69 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 67 | CES89 = 65 |
| CES15 = 72 | CES40 = 86 | CES65 = 64 | CES90 = 71 |
| CES16 = 48 | CES41 = 80 | CES66 = 61 | CES91 = 96 |
| CES17 = 51 | CES42 = 79 | CES67 = 59 | CES92 = 64 |
| CES18 = 57 | CES43 = 67 | CES68 = 67 | CES93 = 78 |
| CES19 = 73 | CES44 = 98 | CES69 = 77 | CES94 = 51 |
| CES20 = 67 | CES45 = 77 | CES70 = 59 | CES95 = 72 |
| CES21 = 88 | CES46 = 72 | CES71 = 56 | CES96 = 77 |
| CES22 = 80 | CES47 = 67 | CES72 = 85 | CES97 = 79 |
| CES23 = 92 | CES48 = 57 | CES73 = 50 | CES98 = 72 |
| CES24 = 92 | CES49 = 69 | CES74 = 94 | CES99 = 63 |
| CES25 = 73 | CES50 = 79 | CES75 = 58 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)