

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: STREETWORKS

Report Number: P867771

Luminaire Tested: **MEM2-HTN-SA-40-750-U-T5R**

Issue Date: 08/21/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P867771  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: MEM2-HTN-SA-40-750-U-T5R  
Description: EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 40W 70CRI 5000K  
FIXTURE w/ TYPE V ROUND DISTRIBUTION OPTIC  
Light Source: (10) 5000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

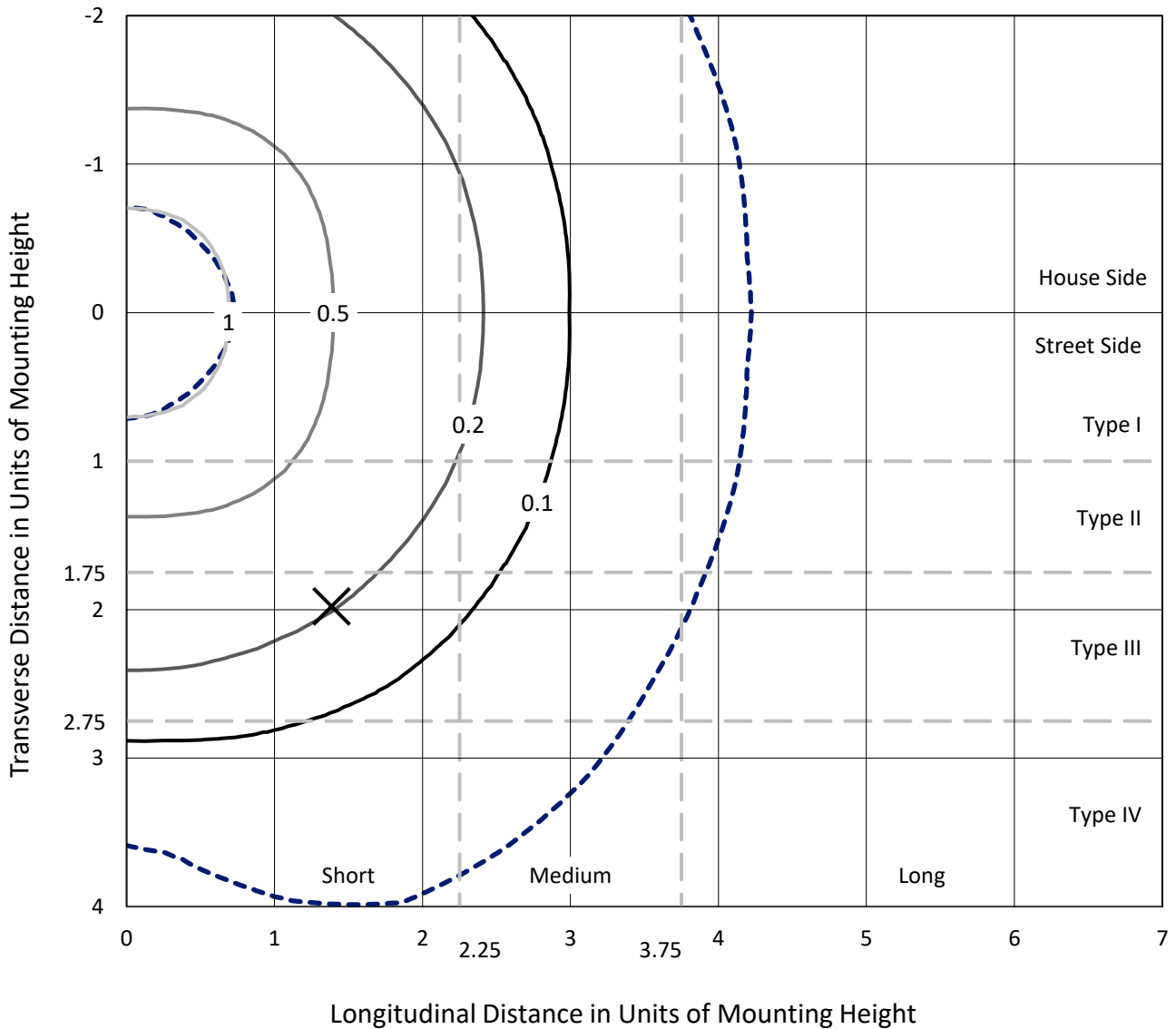
Lumens per Lamp: N/A  
Luminaire Lumens: 5010.1 lumens  
Efficiency: N/A  
Efficacy: 152.7 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B3 - U0 - G1

Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 9.76%  
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

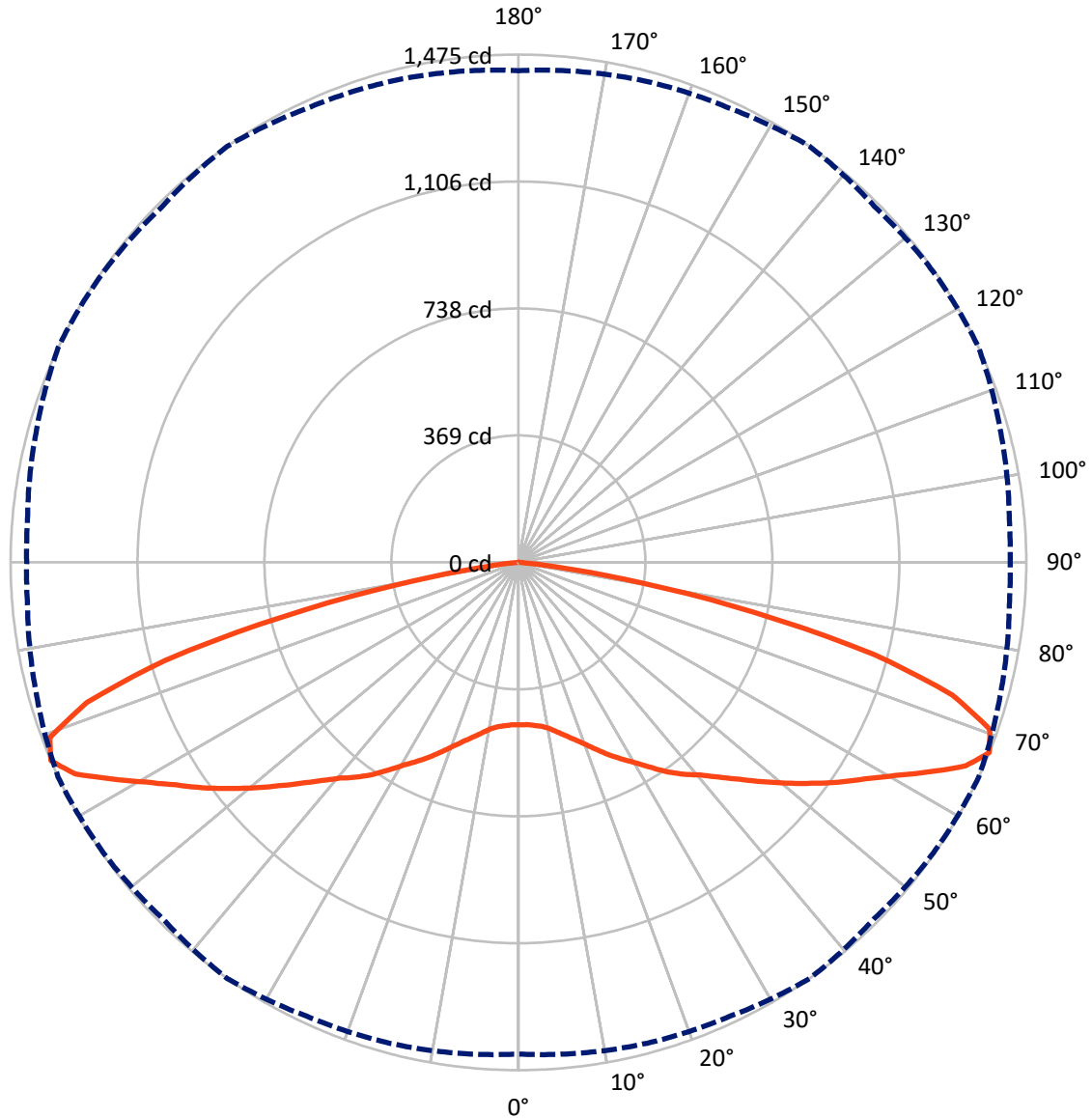
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 1.2 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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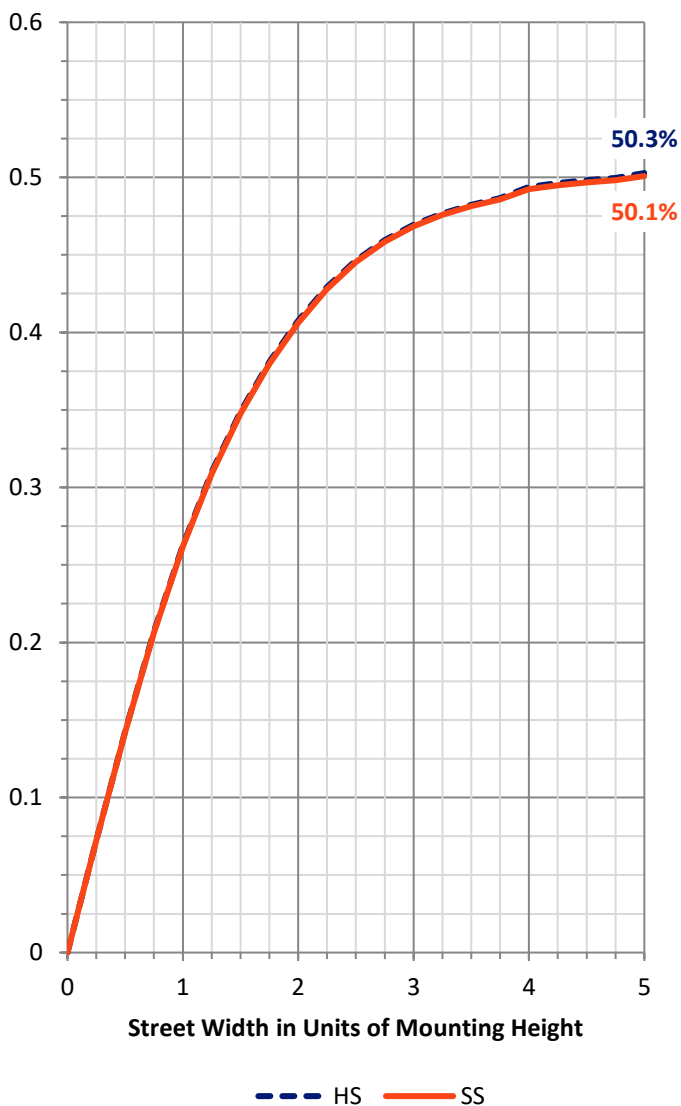
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2505.1   | 0.0    | 2505.1 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Street Side</b> | Lumens    | 2505.1   | 0.0    | 2505.1 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Total</b>       | Lumens    | 5010.1   | 0.0    | 5010.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 45.9   | 0.9       |
| 10°-20°   | 150.4  | 3.0       |
| 20°-30°   | 287.5  | 5.7       |
| 30°-40°   | 464.6  | 9.3       |
| 40°-50°   | 680.0  | 13.6      |
| 50°-60°   | 975.0  | 19.5      |
| 60°-70°   | 1366.6 | 27.3      |
| 70°-80°   | 964.3  | 19.2      |
| 80°-90°   | 75.9   | 1.5       |
| 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°    | 5010.1 | 100.0     |
| 0°-180°   | 5010.1 | 100.0     |

**Coefficient of Utilization**



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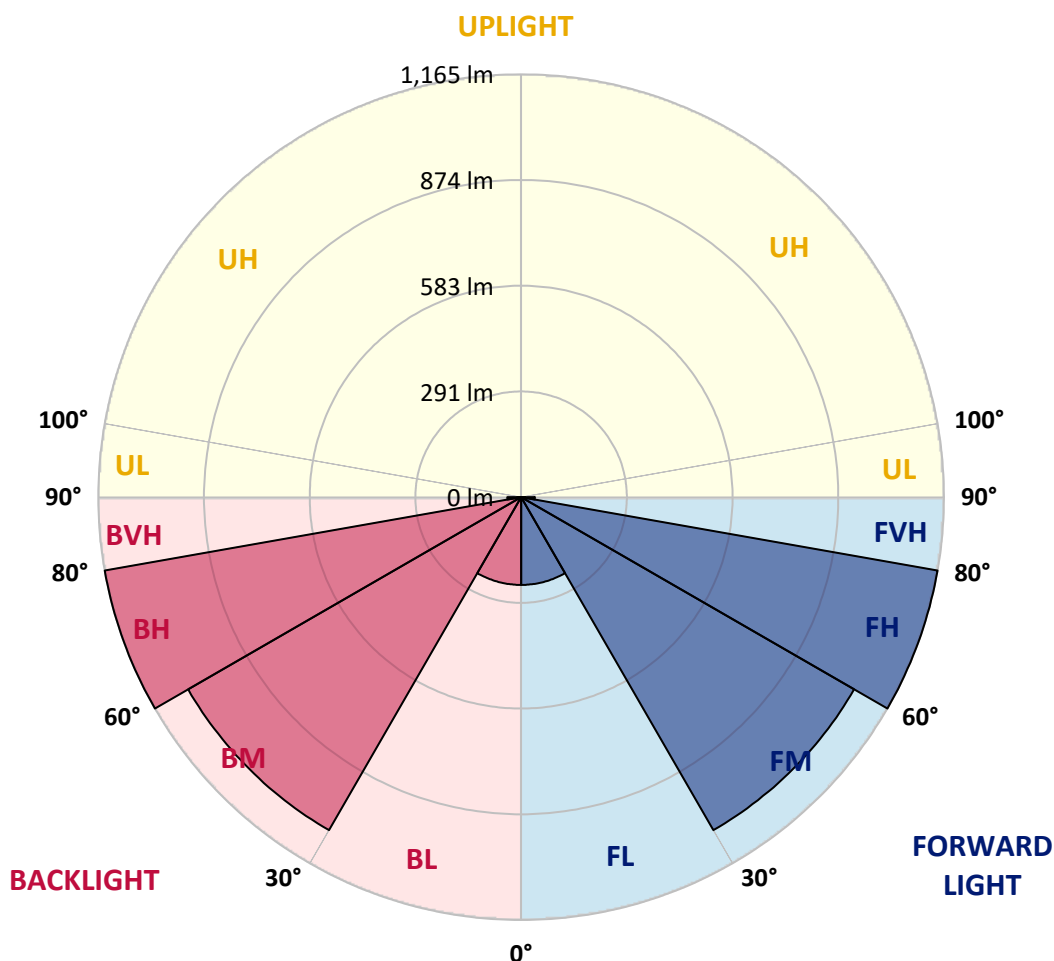
CATALOG NUMBER: MEM2-HTN-SA-40-750-U-T5R

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 241.9  | 4.8       |                         |      |         |
| FM   | (30°-60°)   | 1059.8 | 21.2      |                         |      |         |
| FH   | (60°-80°)   | 1165.4 | 23.3      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 38.0   | 0.8       |                         |      | G1/100  |
| BL   | (0°-30°)    | 241.9  | 4.8       | B1/500                  |      |         |
| BM   | (30°-60°)   | 1059.8 | 21.2      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 1165.4 | 23.3      | B3/2500                 |      | G1/1800 |
| BVH  | (80°-90°)   | 38.0   | 0.8       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G1**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 471.9  | 471.9  | 471.9  | 471.9  | 471.9  | 471.9  | 471.9  | 471.9  | 471.9  | 471.9  | 471.9  |
| 2.5°  | 474.9  | 473.9  | 472.9  | 472.9  | 471.9  | 472.9  | 471.9  | 472.9  | 471.9  | 471.9  | 471.9  |
| 5°    | 477.8  | 476.8  | 476.8  | 476.8  | 475.8  | 475.8  | 475.8  | 475.8  | 474.9  | 473.9  | 474.9  |
| 7.5°  | 480.7  | 480.7  | 479.7  | 481.7  | 480.7  | 481.7  | 481.7  | 482.7  | 480.7  | 479.7  | 480.7  |
| 10°   | 488.5  | 488.5  | 488.5  | 490.5  | 490.5  | 493.4  | 493.4  | 494.4  | 493.4  | 491.4  | 491.4  |
| 12.5° | 505.1  | 504.1  | 504.1  | 504.1  | 506.1  | 508.0  | 510.0  | 510.0  | 509.0  | 506.1  | 506.1  |
| 15°   | 523.6  | 525.6  | 523.6  | 522.6  | 523.6  | 525.6  | 527.5  | 527.5  | 526.5  | 525.6  | 525.6  |
| 17.5° | 546.1  | 547.0  | 545.1  | 543.1  | 543.1  | 546.1  | 547.0  | 547.0  | 546.1  | 544.1  | 544.1  |
| 20°   | 565.6  | 566.5  | 566.5  | 565.6  | 566.5  | 568.5  | 569.5  | 570.4  | 567.5  | 564.6  | 564.6  |
| 22.5° | 582.1  | 583.1  | 585.1  | 589.0  | 592.9  | 594.8  | 593.8  | 593.8  | 589.0  | 586.0  | 585.1  |
| 25°   | 602.6  | 605.5  | 609.4  | 614.3  | 621.1  | 626.0  | 624.1  | 620.2  | 616.3  | 610.4  | 609.4  |
| 27.5° | 642.6  | 642.6  | 638.7  | 640.6  | 648.4  | 653.3  | 651.4  | 648.4  | 640.6  | 636.7  | 635.8  |
| 30°   | 673.8  | 673.8  | 673.8  | 671.8  | 676.7  | 682.6  | 680.6  | 675.7  | 671.8  | 669.9  | 669.9  |
| 32.5° | 704.0  | 702.1  | 705.0  | 708.9  | 710.8  | 712.8  | 712.8  | 708.9  | 702.1  | 699.1  | 699.1  |
| 35°   | 732.3  | 734.2  | 737.2  | 743.0  | 747.9  | 745.0  | 740.1  | 737.2  | 730.3  | 724.5  | 724.5  |
| 37.5° | 759.6  | 761.5  | 764.5  | 773.2  | 781.0  | 780.1  | 774.2  | 766.4  | 757.6  | 752.8  | 749.8  |
| 40°   | 779.1  | 780.1  | 787.9  | 801.5  | 812.2  | 816.1  | 811.3  | 800.5  | 786.9  | 777.1  | 778.1  |
| 42.5° | 802.5  | 804.4  | 817.1  | 836.6  | 852.2  | 858.1  | 851.3  | 836.6  | 817.1  | 804.4  | 804.4  |
| 45°   | 836.6  | 837.6  | 854.2  | 878.6  | 899.0  | 908.8  | 899.0  | 878.6  | 853.2  | 840.5  | 839.6  |
| 47.5° | 870.8  | 873.7  | 892.2  | 921.5  | 951.7  | 963.4  | 952.7  | 926.3  | 896.1  | 880.5  | 878.6  |
| 50°   | 909.8  | 911.7  | 934.1  | 974.1  | 1008.2 | 1023.8 | 1010.2 | 977.0  | 943.9  | 924.4  | 925.4  |
| 52.5° | 947.8  | 953.6  | 983.9  | 1025.8 | 1066.7 | 1084.3 | 1064.8 | 1028.7 | 993.6  | 975.1  | 974.1  |
| 55°   | 1004.3 | 1011.2 | 1037.5 | 1084.3 | 1127.2 | 1146.7 | 1128.2 | 1088.2 | 1050.2 | 1029.7 | 1025.8 |
| 57.5° | 1075.5 | 1079.4 | 1102.8 | 1150.6 | 1186.7 | 1205.2 | 1194.5 | 1157.4 | 1121.4 | 1096.0 | 1091.1 |
| 60°   | 1156.5 | 1160.4 | 1178.9 | 1227.6 | 1256.9 | 1270.5 | 1266.6 | 1245.2 | 1220.8 | 1209.1 | 1206.2 |
| 62.5° | 1271.5 | 1272.5 | 1282.2 | 1310.5 | 1339.8 | 1345.6 | 1335.9 | 1331.0 | 1338.8 | 1326.1 | 1329.0 |
| 65°   | 1403.2 | 1403.2 | 1400.2 | 1404.1 | 1426.6 | 1419.7 | 1412.9 | 1434.4 | 1430.5 | 1409.0 | 1405.1 |
| 67.5° | 1428.5 | 1434.4 | 1446.1 | 1454.8 | 1475.3 | 1462.6 | 1471.4 | 1475.3 | 1450.9 | 1431.4 | 1428.5 |
| 70°   | 1278.3 | 1285.2 | 1350.5 | 1390.5 | 1452.9 | 1464.6 | 1436.3 | 1421.7 | 1394.4 | 1358.3 | 1348.5 |
| 72.5° | 871.7  | 905.9  | 1094.1 | 1222.8 | 1318.3 | 1332.9 | 1317.3 | 1298.8 | 1244.2 | 1215.9 | 1196.4 |
| 75°   | 696.2  | 714.7  | 882.5  | 1009.2 | 1065.8 | 1064.8 | 1002.4 | 981.9  | 939.0  | 935.1  | 939.0  |
| 77.5° | 425.1  | 429.0  | 593.8  | 693.3  | 700.1  | 696.2  | 670.9  | 655.3  | 661.1  | 631.9  | 636.7  |
| 80°   | 129.7  | 141.4  | 224.3  | 338.4  | 363.7  | 352.0  | 347.1  | 353.0  | 358.8  | 367.6  | 381.3  |
| 82.5° | 26.3   | 33.2   | 44.9   | 97.5   | 111.2  | 110.2  | 109.2  | 120.9  | 131.6  | 136.5  | 165.8  |
| 85°   | 2.9    | 2.9    | 3.9    | 7.8    | 16.6   | 26.3   | 27.3   | 24.4   | 37.1   | 36.1   | 25.4   |
| 87.5° | 1.0    | 1.0    | 1.0    | 1.0    | 1.0    | 2.0    | 2.0    | 2.0    | 2.0    | 2.0    | 2.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-157-6

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-40-750-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-40-750-U-5WQ-2



**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-157-6  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 08/20/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Streetworks  
 Catalog Number: **MEM2-HTN-SA-40-750-U-5WQ-2**  
 Description: Epic Modern Light Square 40W 5WQ Optic and Flare Trim

**Spectral Parameters**

CCT (K): 5094  
 CIE u': 0.2082  
 CIE v': 0.4867  
 Duv: 0.0032  
 CIE x: 0.3430  
 CIE y: 0.3564  
 CIE z: 0.3006  
 Peak Wavelength (nm): 451  
 Dominant Wavelength (nm): 568  
 Purity: 9.86439  
 Rf: 73.7  
 Rg: 93

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 72.0 |      |       |
| R1:       | 68.6 | R9:  | -39.6 |
| R2:       | 78.1 | R10: | 47.6  |
| R3:       | 84.6 | R11: | 68.2  |
| R4:       | 71.6 | R12: | 41.4  |
| R5:       | 69.6 | R13: | 70.4  |
| R6:       | 69.4 | R14: | 91.4  |
| R7:       | 80.9 | R15: | 61.4  |
| R8:       | 53.1 |      |       |



**Test Conditions**

Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-157-6

| 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 5000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 114                      | NR            | 620    | 361                      | NR            | 750    | 9                        | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 145                      | NR            | 625    | 326                      | NR            | 755    | 8                        | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 197                      | NR            | 630    | 294                      | NR            | 760    | 7                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 259                      | NR            | 635    | 261                      | NR            | 765    | 6                        | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 319                      | NR            | 640    | 232                      | NR            | 770    | 5                        | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 373                      | NR            | 645    | 204                      | NR            | 775    | 4                        | NR            | 905    | 0                        | NR            |
| 390    | 0                        | NR            | 520    | 414                      | NR            | 650    | 179                      | NR            | 780    | 4                        | NR            | 910    | 0                        | NR            |
| 395    | 1                        | NR            | 525    | 445                      | NR            | 655    | 157                      | NR            | 785    | 3                        | NR            | 915    | 0                        | NR            |
| 400    | 3                        | NR            | 530    | 465                      | NR            | 660    | 136                      | NR            | 790    | 3                        | NR            | 920    | 0                        | NR            |
| 405    | 5                        | NR            | 535    | 482                      | NR            | 665    | 118                      | NR            | 795    | 2                        | NR            | 925    | 0                        | NR            |
| 410    | 9                        | NR            | 540    | 493                      | NR            | 670    | 102                      | NR            | 800    | 2                        | NR            | 930    | 0                        | NR            |
| 415    | 18                       | NR            | 545    | 505                      | NR            | 675    | 87                       | NR            | 805    | 2                        | NR            | 935    | 0                        | NR            |
| 420    | 36                       | NR            | 550    | 515                      | NR            | 680    | 75                       | NR            | 810    | 2                        | NR            | 940    | 0                        | NR            |
| 425    | 72                       | NR            | 555    | 527                      | NR            | 685    | 65                       | NR            | 815    | 1                        | NR            | 945    | 0                        | NR            |
| 430    | 134                      | NR            | 560    | 540                      | NR            | 690    | 56                       | NR            | 820    | 1                        | NR            | 950    | 0                        | NR            |
| 435    | 242                      | NR            | 565    | 550                      | NR            | 695    | 48                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 407                      | NR            | 570    | 557                      | NR            | 700    | 41                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 684                      | NR            | 575    | 561                      | NR            | 705    | 35                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 988                      | NR            | 580    | 559                      | NR            | 710    | 30                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 828                      | NR            | 585    | 551                      | NR            | 715    | 26                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 473                      | NR            | 590    | 537                      | NR            | 720    | 22                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 333                      | NR            | 595    | 516                      | NR            | 725    | 19                       | NR            | 855    | 0                        | NR            | 985    | 0                        | NR            |
| 470    | 232                      | NR            | 600    | 491                      | NR            | 730    | 16                       | NR            | 860    | 0                        | NR            | 990    | 0                        | NR            |
| 475    | 146                      | NR            | 605    | 461                      | NR            | 735    | 14                       | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 113                      | NR            | 610    | 429                      | NR            | 740    | 12                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 106                      | NR            | 615    | 395                      | NR            | 745    | 10                       | NR            | 875    | 0                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2407-157-6

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.81**

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 114                      | NR            | 620    | 361                      | NR            | 750    | 9                        | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 145                      | NR            | 625    | 326                      | NR            | 755    | 8                        | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 197                      | NR            | 630    | 294                      | NR            | 760    | 7                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 259                      | NR            | 635    | 261                      | NR            | 765    | 6                        | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 319                      | NR            | 640    | 232                      | NR            | 770    | 5                        | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 373                      | NR            | 645    | 204                      | NR            | 775    | 4                        | NR            | 905    | 0                        | NR            |
| 390    | 0                        | NR            | 520    | 414                      | NR            | 650    | 179                      | NR            | 780    | 4                        | NR            | 910    | 0                        | NR            |
| 395    | 1                        | NR            | 525    | 445                      | NR            | 655    | 157                      | NR            | 785    | 3                        | NR            | 915    | 0                        | NR            |
| 400    | 3                        | NR            | 530    | 465                      | NR            | 660    | 136                      | NR            | 790    | 3                        | NR            | 920    | 0                        | NR            |
| 405    | 5                        | NR            | 535    | 482                      | NR            | 665    | 118                      | NR            | 795    | 2                        | NR            | 925    | 0                        | NR            |
| 410    | 9                        | NR            | 540    | 493                      | NR            | 670    | 102                      | NR            | 800    | 2                        | NR            | 930    | 0                        | NR            |
| 415    | 18                       | NR            | 545    | 505                      | NR            | 675    | 87                       | NR            | 805    | 2                        | NR            | 935    | 0                        | NR            |
| 420    | 36                       | NR            | 550    | 515                      | NR            | 680    | 75                       | NR            | 810    | 2                        | NR            | 940    | 0                        | NR            |
| 425    | 72                       | NR            | 555    | 527                      | NR            | 685    | 65                       | NR            | 815    | 1                        | NR            | 945    | 0                        | NR            |
| 430    | 134                      | NR            | 560    | 540                      | NR            | 690    | 56                       | NR            | 820    | 1                        | NR            | 950    | 0                        | NR            |
| 435    | 242                      | NR            | 565    | 550                      | NR            | 695    | 48                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 407                      | NR            | 570    | 557                      | NR            | 700    | 41                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 684                      | NR            | 575    | 561                      | NR            | 705    | 35                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 988                      | NR            | 580    | 559                      | NR            | 710    | 30                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 828                      | NR            | 585    | 551                      | NR            | 715    | 26                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 473                      | NR            | 590    | 537                      | NR            | 720    | 22                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 333                      | NR            | 595    | 516                      | NR            | 725    | 19                       | NR            | 855    | 0                        | NR            | 985    | 0                        | NR            |
| 470    | 232                      | NR            | 600    | 491                      | NR            | 730    | 16                       | NR            | 860    | 0                        | NR            | 990    | 0                        | NR            |
| 475    | 146                      | NR            | 605    | 461                      | NR            | 735    | 14                       | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 113                      | NR            | 610    | 429                      | NR            | 740    | 12                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 106                      | NR            | 615    | 395                      | NR            | 745    | 10                       | NR            | 875    | 0                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2407-157-6

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.73

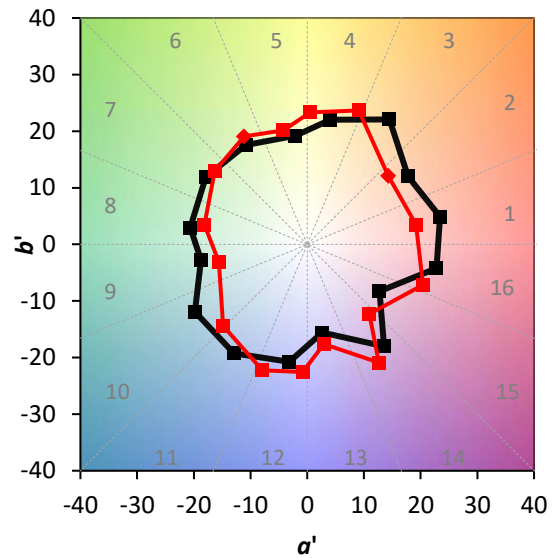
| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 114                      | NR            | 620    | 361                      | NR            | 750    | 9                        | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 145                      | NR            | 625    | 326                      | NR            | 755    | 8                        | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 197                      | NR            | 630    | 294                      | NR            | 760    | 7                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 259                      | NR            | 635    | 261                      | NR            | 765    | 6                        | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 319                      | NR            | 640    | 232                      | NR            | 770    | 5                        | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 373                      | NR            | 645    | 204                      | NR            | 775    | 4                        | NR            | 905    | 0                        | NR            |
| 390    | 0                        | NR            | 520    | 414                      | NR            | 650    | 179                      | NR            | 780    | 4                        | NR            | 910    | 0                        | NR            |
| 395    | 1                        | NR            | 525    | 445                      | NR            | 655    | 157                      | NR            | 785    | 3                        | NR            | 915    | 0                        | NR            |
| 400    | 3                        | NR            | 530    | 465                      | NR            | 660    | 136                      | NR            | 790    | 3                        | NR            | 920    | 0                        | NR            |
| 405    | 5                        | NR            | 535    | 482                      | NR            | 665    | 118                      | NR            | 795    | 2                        | NR            | 925    | 0                        | NR            |
| 410    | 9                        | NR            | 540    | 493                      | NR            | 670    | 102                      | NR            | 800    | 2                        | NR            | 930    | 0                        | NR            |
| 415    | 18                       | NR            | 545    | 505                      | NR            | 675    | 87                       | NR            | 805    | 2                        | NR            | 935    | 0                        | NR            |
| 420    | 36                       | NR            | 550    | 515                      | NR            | 680    | 75                       | NR            | 810    | 2                        | NR            | 940    | 0                        | NR            |
| 425    | 72                       | NR            | 555    | 527                      | NR            | 685    | 65                       | NR            | 815    | 1                        | NR            | 945    | 0                        | NR            |
| 430    | 134                      | NR            | 560    | 540                      | NR            | 690    | 56                       | NR            | 820    | 1                        | NR            | 950    | 0                        | NR            |
| 435    | 242                      | NR            | 565    | 550                      | NR            | 695    | 48                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 407                      | NR            | 570    | 557                      | NR            | 700    | 41                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 684                      | NR            | 575    | 561                      | NR            | 705    | 35                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 988                      | NR            | 580    | 559                      | NR            | 710    | 30                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 828                      | NR            | 585    | 551                      | NR            | 715    | 26                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 473                      | NR            | 590    | 537                      | NR            | 720    | 22                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 333                      | NR            | 595    | 516                      | NR            | 725    | 19                       | NR            | 855    | 0                        | NR            | 985    | 0                        | NR            |
| 470    | 232                      | NR            | 600    | 491                      | NR            | 730    | 16                       | NR            | 860    | 0                        | NR            | 990    | 0                        | NR            |
| 475    | 146                      | NR            | 605    | 461                      | NR            | 735    | 14                       | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 113                      | NR            | 610    | 429                      | NR            | 740    | 12                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 106                      | NR            | 615    | 395                      | NR            | 745    | 10                       | NR            | 875    | 0                        | NR            |        |                          |               |

**Summary**

$R_f = 73.7$   
 $R_g = 93$   
 $CIE R_a = 72.0$   
 $R_9 = -39.6$

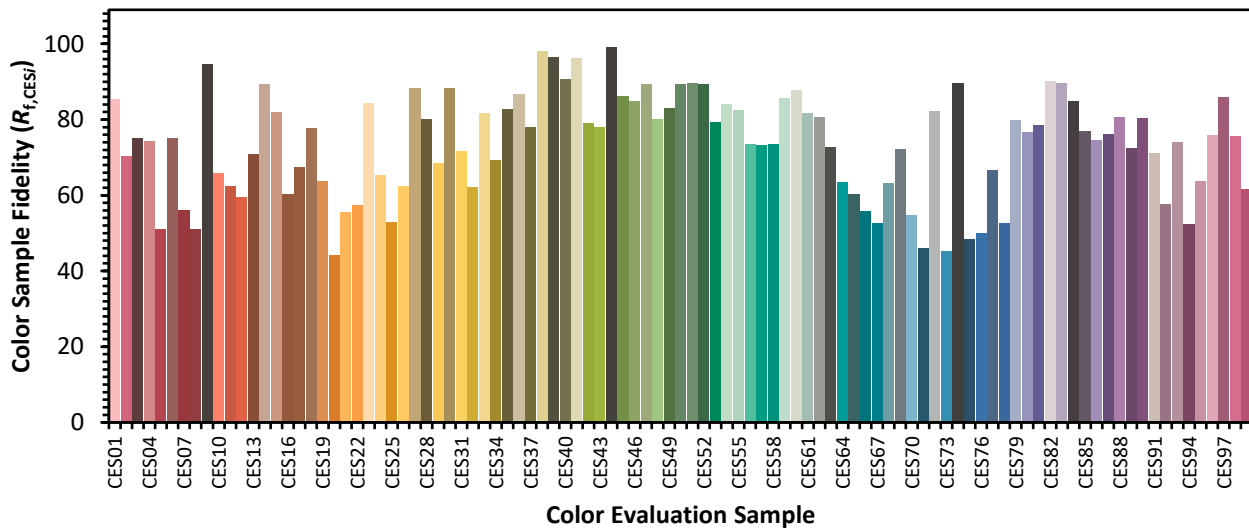


**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 62 | CES51 = 90 | CES76 = 50 |
| CES02 = 59 | CES27 = 88 | CES52 = 89 | CES77 = 67 |
| CES03 = 30 | CES28 = 80 | CES53 = 79 | CES78 = 53 |
| CES04 = 69 | CES29 = 69 | CES54 = 84 | CES79 = 80 |
| CES05 = 46 | CES30 = 88 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 72 | CES56 = 74 | CES81 = 78 |
| CES07 = 38 | CES32 = 62 | CES57 = 73 | CES82 = 90 |
| CES08 = 38 | CES33 = 82 | CES58 = 73 | CES83 = 90 |
| CES09 = 29 | CES34 = 69 | CES59 = 86 | CES84 = 85 |
| CES10 = 72 | CES35 = 83 | CES60 = 88 | CES85 = 77 |
| CES11 = 56 | CES36 = 87 | CES61 = 82 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 81 | CES87 = 76 |
| CES13 = 41 | CES38 = 98 | CES63 = 73 | CES88 = 81 |
| CES14 = 74 | CES39 = 96 | CES64 = 63 | CES89 = 72 |
| CES15 = 70 | CES40 = 91 | CES65 = 60 | CES90 = 80 |
| CES16 = 46 | CES41 = 96 | CES66 = 56 | CES91 = 71 |
| CES17 = 49 | CES42 = 79 | CES67 = 53 | CES92 = 58 |
| CES18 = 55 | CES43 = 78 | CES68 = 63 | CES93 = 74 |
| CES19 = 71 | CES44 = 99 | CES69 = 72 | CES94 = 52 |
| CES20 = 63 | CES45 = 86 | CES70 = 55 | CES95 = 64 |
| CES21 = 85 | CES46 = 85 | CES71 = 46 | CES96 = 76 |
| CES22 = 77 | CES47 = 89 | CES72 = 82 | CES97 = 86 |
| CES23 = 91 | CES48 = 80 | CES73 = 45 | CES98 = 76 |
| CES24 = 90 | CES49 = 83 | CES74 = 90 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 48 |            |





Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)