

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: P880412

Luminaire Tested: **EMM2-HSN-VA1-740-U-MQ**

Issue Date: 10/01/2024



Test Information

Test Method: LM-79-08
Report Number: P880412
Test Lab: INNOVATION CENTER(G3)
Issue Date: 10/01/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: EMM2-HSN-VA1-740-U-MQ
Description: EPIC MODERN SHORT HOUSING 1W 70CRI 4000K VISUAL COMFORT FIXTURE w/
TYPE V MEDIUM DISTRIBUTION OPTIC
Light Source: (1) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

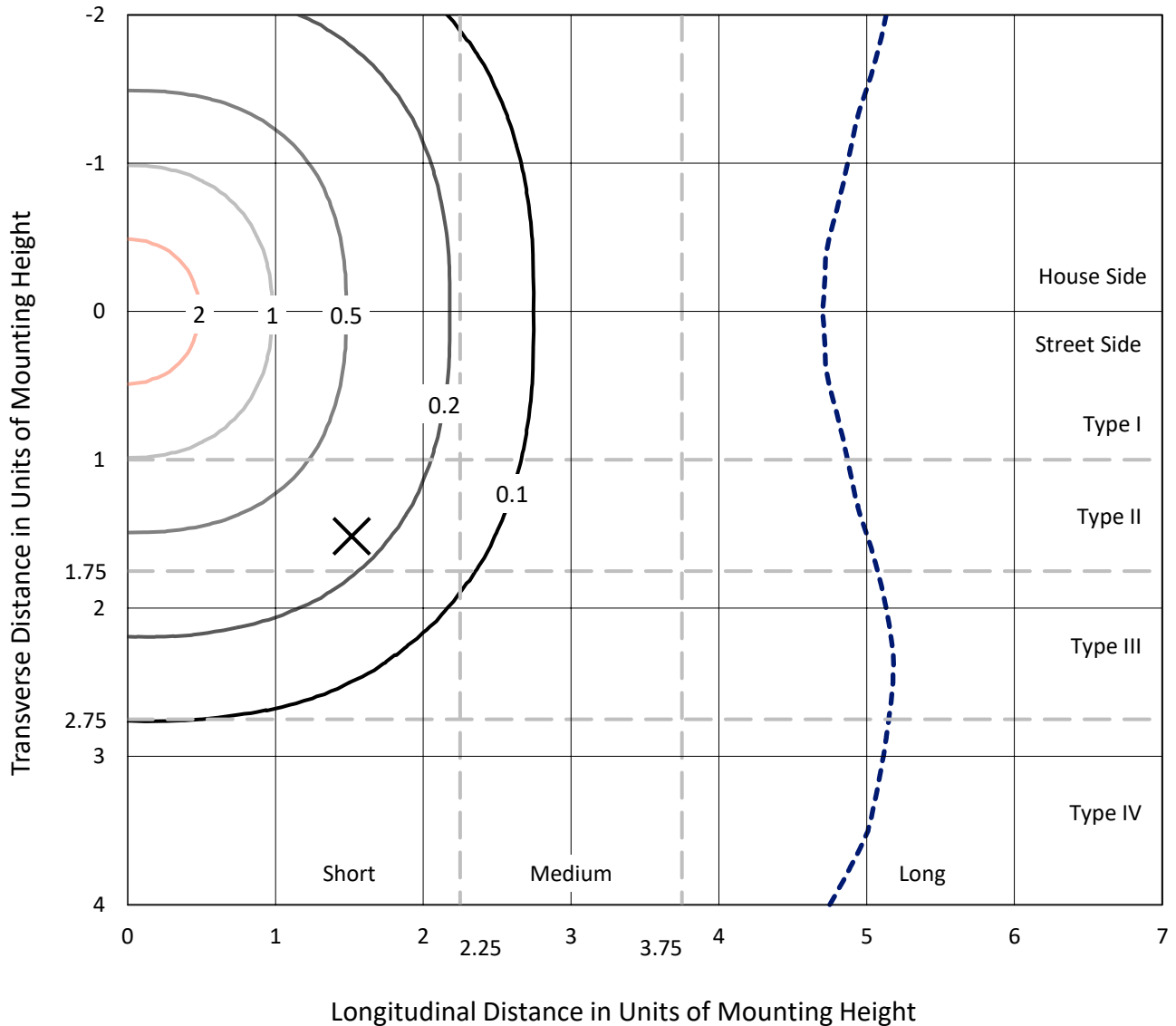
Lumens per Lamp: N/A
Luminaire Lumens: 3421.3 lumens
Efficiency: N/A
Efficacy: 122.2 lumens/watt
Luminous Opening: Circular (Dia: 1.12' x H: 0')
IES Classification: Type V - Short
BUG Rating: B2 - U0 - G1

Input Watts (W): 28
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 16%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

REPORT NUMBER: P880412
 CATALOG NUMBER: EMM2-HSN-VA1-740-U-MQ

Iso-Footcandle Lines of Horizontal Illumination

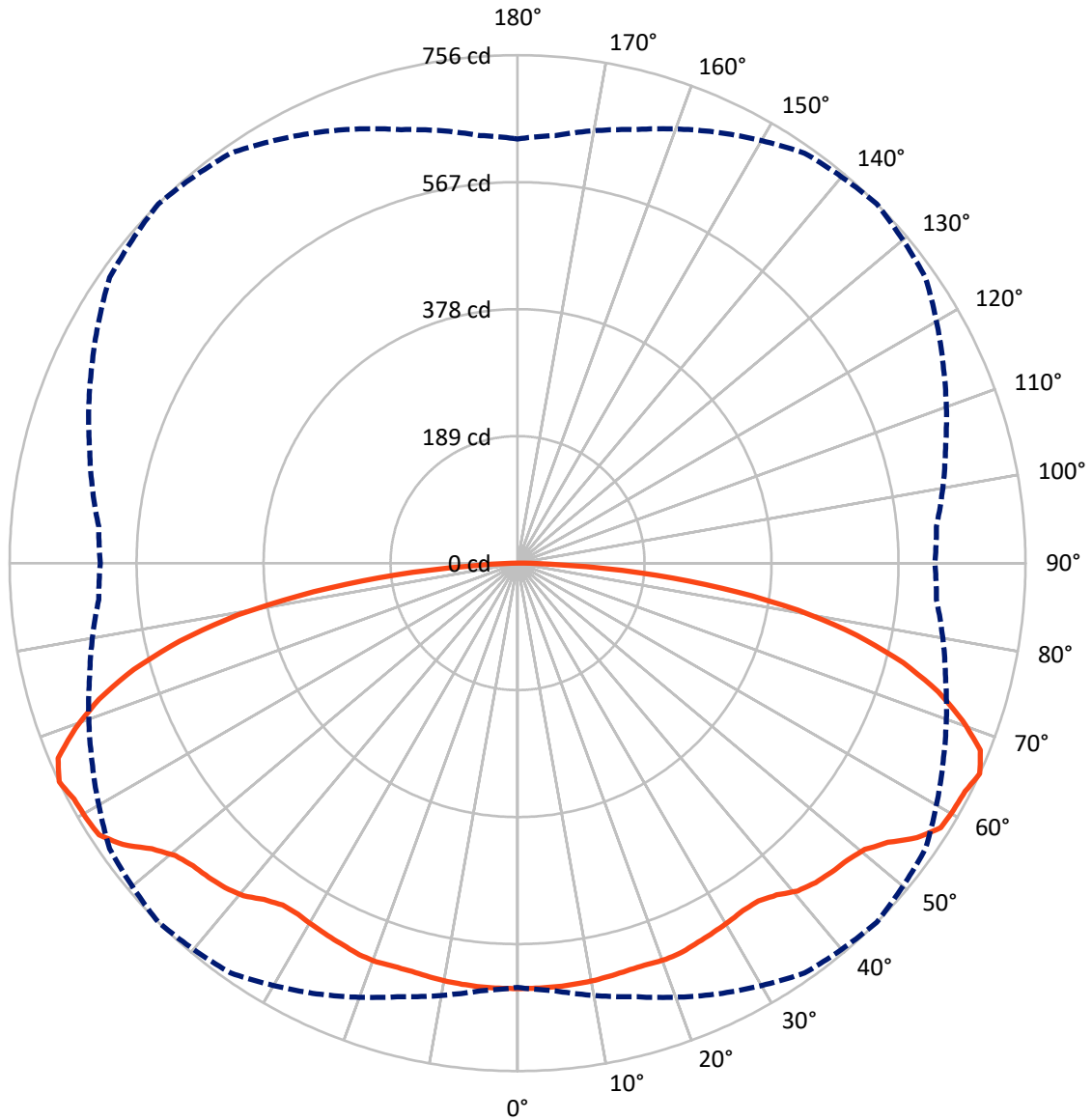
✕ Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 2.8 fc
 Type V - Short - N/A

REPORT NUMBER: P880412
CATALOG NUMBER: EMM2-HSN-VA1-740-U-MQ

Luminous Intensity Polar Plot



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

REPORT NUMBER: P880412
 CATALOG NUMBER: EMM2-HSN-VA1-740-U-MQ

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1710.6 | 0.0 | 1710.6 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 1710.6 | 0.0 | 1710.6 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 3421.3 | 0.0 | 3421.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 60.4 | 1.8 |
| 10°-20° | 178.1 | 5.2 |
| 20°-30° | 288.4 | 8.4 |
| 30°-40° | 387.6 | 11.3 |
| 40°-50° | 494.6 | 14.5 |
| 50°-60° | 608.5 | 17.8 |
| 60°-70° | 677.6 | 19.8 |
| 70°-80° | 550.0 | 16.1 |
| 80°-90° | 176.1 | 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° | 3421.3 | 100.0 |
| 0°-180° | 3421.3 | 100.0 |



REPORT NUMBER: P880412

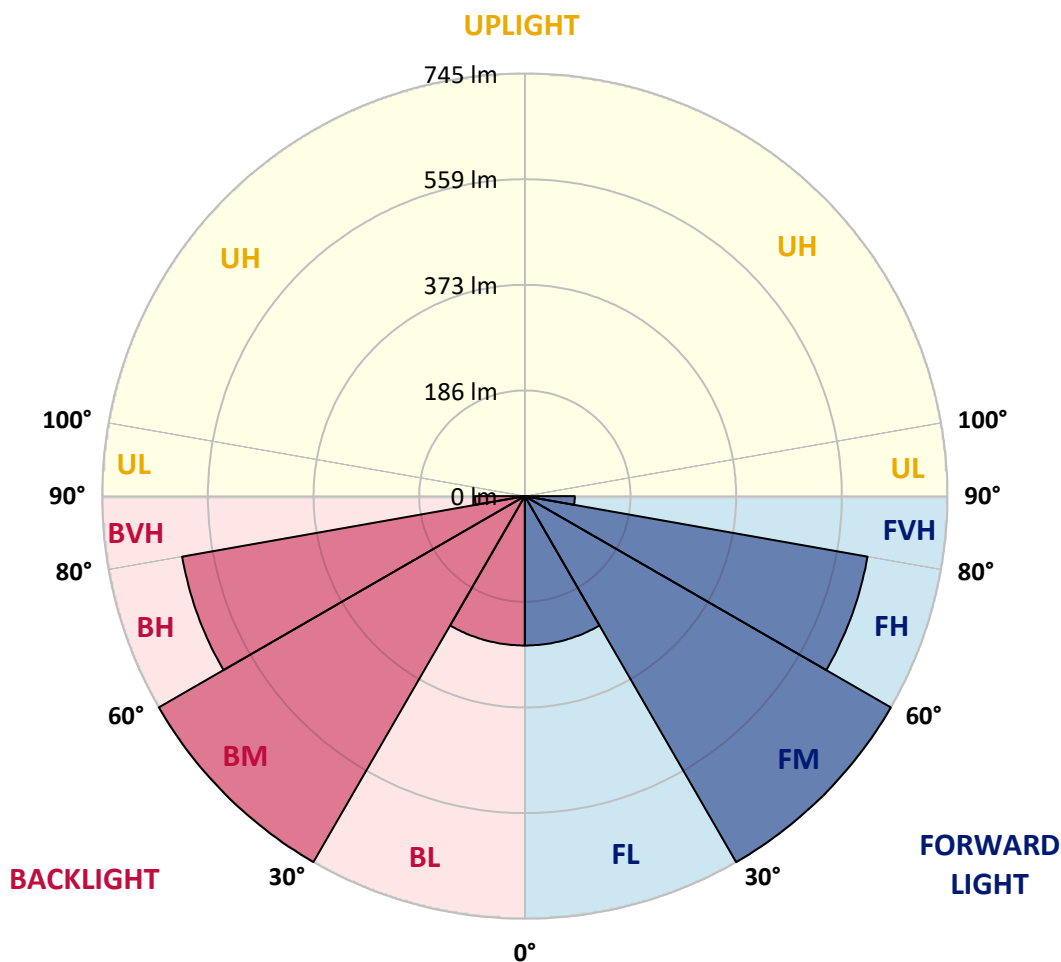
CATALOG NUMBER: EMM2-HSN-VA1-740-U-MQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|--------|
| | | | B | U | G |
| FL (0°-30°) | 263.5 | 7.7 | | | |
| FM (30°-60°) | 745.3 | 21.8 | | | |
| FH (60°-80°) | 613.8 | 17.9 | | | G0/660 |
| FVH (80°-90°) | 88.0 | 2.6 | | | G1/100 |
| BL (0°-30°) | 263.5 | 7.7 | B1/500 | | |
| BM (30°-60°) | 745.3 | 21.8 | B1/1000 | | |
| BH (60°-80°) | 613.8 | 17.9 | B2/1000 | | G0/660 |
| BVH (80°-90°) | 88.0 | 2.6 | | | 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





REPORT NUMBER: P880412

CATALOG NUMBER: EMM2-HSN-VA1-740-U-MQ

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 |
| 2.5° | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 |
| 5° | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 633.6 | 632.7 | 633.6 | 633.6 |
| 7.5° | 632.7 | 632.7 | 632.7 | 632.7 | 632.7 | 632.7 | 632.7 | 632.7 | 632.7 | 632.7 | 632.7 |
| 10° | 631.7 | 631.7 | 631.7 | 631.7 | 631.7 | 631.7 | 631.7 | 631.7 | 631.7 | 631.7 | 631.7 |
| 12.5° | 629.9 | 629.9 | 629.9 | 629.9 | 629.9 | 629.9 | 629.9 | 629.9 | 629.9 | 629.9 | 629.9 |
| 15° | 627.0 | 628.0 | 628.0 | 628.0 | 628.0 | 628.0 | 628.0 | 628.0 | 628.0 | 627.0 | 627.0 |
| 17.5° | 626.1 | 626.1 | 626.1 | 627.0 | 628.0 | 628.0 | 628.0 | 627.0 | 626.1 | 625.2 | 625.2 |
| 20° | 627.0 | 627.0 | 627.0 | 628.0 | 628.9 | 629.9 | 628.9 | 628.0 | 626.1 | 626.1 | 626.1 |
| 22.5° | 626.1 | 627.0 | 627.0 | 628.0 | 628.9 | 628.9 | 628.0 | 627.0 | 626.1 | 625.2 | 625.2 |
| 25° | 623.3 | 623.3 | 624.2 | 625.2 | 625.2 | 625.2 | 625.2 | 623.3 | 622.4 | 621.4 | 621.4 |
| 27.5° | 619.5 | 620.5 | 620.5 | 621.4 | 622.4 | 622.4 | 621.4 | 619.5 | 618.6 | 617.7 | 617.7 |
| 30° | 614.9 | 614.9 | 615.8 | 617.7 | 618.6 | 619.5 | 617.7 | 615.8 | 613.0 | 612.0 | 612.0 |
| 32.5° | 610.2 | 611.1 | 613.0 | 614.9 | 615.8 | 616.7 | 614.9 | 613.0 | 610.2 | 608.3 | 607.4 |
| 35° | 608.3 | 608.3 | 611.1 | 614.9 | 617.7 | 617.7 | 615.8 | 612.0 | 608.3 | 604.5 | 604.5 |
| 37.5° | 611.1 | 612.0 | 615.8 | 622.4 | 627.0 | 627.0 | 626.1 | 619.5 | 613.0 | 607.4 | 606.4 |
| 40° | 617.7 | 618.6 | 625.2 | 633.6 | 641.1 | 642.0 | 638.3 | 629.9 | 620.5 | 613.9 | 612.0 |
| 42.5° | 621.4 | 623.3 | 630.8 | 641.1 | 647.7 | 650.5 | 645.8 | 637.4 | 625.2 | 616.7 | 615.8 |
| 45° | 623.3 | 625.2 | 633.6 | 644.9 | 653.3 | 656.1 | 651.4 | 640.2 | 627.0 | 617.7 | 616.7 |
| 47.5° | 624.2 | 626.1 | 634.5 | 648.6 | 658.0 | 660.8 | 657.0 | 643.9 | 628.0 | 618.6 | 617.7 |
| 50° | 625.2 | 628.9 | 639.2 | 654.2 | 668.3 | 670.2 | 664.5 | 648.6 | 631.7 | 620.5 | 617.7 |
| 52.5° | 631.7 | 634.5 | 649.5 | 671.1 | 685.2 | 690.8 | 682.3 | 666.4 | 641.1 | 624.2 | 622.4 |
| 55° | 647.7 | 648.6 | 666.4 | 693.6 | 714.2 | 721.7 | 708.6 | 687.0 | 656.1 | 639.2 | 638.3 |
| 57.5° | 652.4 | 658.0 | 677.7 | 708.6 | 733.9 | 743.3 | 732.0 | 699.2 | 671.1 | 648.6 | 643.0 |
| 60° | 647.7 | 652.4 | 675.8 | 711.4 | 738.6 | 746.1 | 737.6 | 706.7 | 665.5 | 640.2 | 635.5 |
| 62.5° | 643.0 | 648.6 | 673.0 | 713.3 | 739.5 | 748.0 | 733.9 | 707.7 | 662.7 | 637.4 | 632.7 |
| 65° | 631.7 | 639.2 | 668.3 | 707.7 | 745.1 | 756.4 | 741.4 | 699.2 | 659.8 | 626.1 | 621.4 |
| 67.5° | 610.2 | 613.9 | 645.8 | 691.7 | 732.0 | 743.3 | 727.3 | 683.3 | 636.4 | 603.6 | 599.9 |
| 70° | 569.9 | 578.3 | 608.3 | 658.9 | 697.3 | 703.0 | 690.8 | 646.7 | 600.8 | 566.1 | 561.4 |
| 72.5° | 516.4 | 528.6 | 561.4 | 613.0 | 643.9 | 655.2 | 639.2 | 603.6 | 555.8 | 516.4 | 509.9 |
| 75° | 460.2 | 466.8 | 500.5 | 551.1 | 583.0 | 593.3 | 579.2 | 544.6 | 487.4 | 460.2 | 453.6 |
| 77.5° | 398.3 | 403.0 | 433.0 | 478.0 | 508.0 | 516.4 | 502.4 | 474.3 | 422.7 | 397.4 | 394.6 |
| 80° | 312.1 | 321.5 | 349.6 | 388.0 | 410.5 | 423.7 | 408.7 | 381.5 | 344.0 | 314.0 | 309.3 |
| 82.5° | 223.1 | 229.6 | 254.9 | 281.2 | 302.7 | 306.5 | 299.9 | 273.7 | 245.6 | 222.1 | 216.5 |
| 85° | 121.8 | 124.7 | 140.6 | 167.8 | 176.2 | 182.8 | 173.4 | 153.7 | 139.7 | 124.7 | 120.0 |
| 87.5° | 31.9 | 32.8 | 37.5 | 44.1 | 47.8 | 48.7 | 47.8 | 42.2 | 34.7 | 27.2 | 30.0 |
| 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: SP1-2407-176-5

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-740-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-740-U-WQ

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-176-5
 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-30-740-U-WQ**
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K): 3819
 CIE u': 0.2261
 CIE v': 0.5108
 Duv: 0.0046
 CIE x: 0.3926
 CIE y: 0.3942
 CIE z: 0.2132
 Peak Wavelength (nm): 450
 Dominant Wavelength (nm): 577
 Purity: 36.15483
 Rf: 75.6
 Rg: 94.8

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 72.9 | | |
| R1: | 70.1 | R9: | -21.5 |
| R2: | 78.4 | R10: | 48.5 |
| R3: | 85.0 | R11: | 68.4 |
| R4: | 72.9 | R12: | 39.0 |
| R5: | 69.1 | R13: | 71.1 |
| R6: | 69.2 | R14: | 91.3 |
| R7: | 82.8 | R15: | 63.2 |
| R8: | 55.4 | | |



Test Conditions

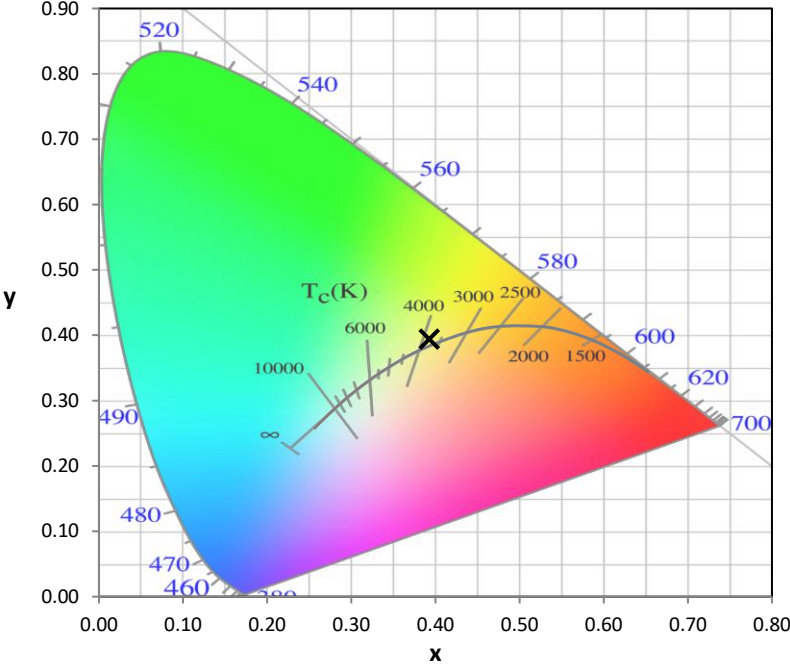
Stabilization Time: 30M
 Operation Time: 1H 30M
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-176-5

| 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 4000K 7-step quadrangle

REPORT NUMBER: SP1-2407-176-5

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 | 127 | NR | 620 | 748 | NR | 750 | 25 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 699 | NR | 755 | 22 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 246 | NR | 630 | 648 | NR | 760 | 20 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 335 | NR | 635 | 599 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 427 | NR | 640 | 547 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 517 | NR | 645 | 495 | NR | 775 | 13 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 589 | NR | 650 | 445 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 649 | NR | 655 | 396 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 695 | NR | 660 | 349 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 733 | NR | 665 | 308 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 763 | NR | 670 | 269 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 23 | NR | 545 | 792 | NR | 675 | 235 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 46 | NR | 550 | 813 | NR | 680 | 205 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 95 | NR | 555 | 835 | NR | 685 | 178 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 183 | NR | 560 | 859 | NR | 690 | 155 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 338 | NR | 565 | 880 | NR | 695 | 134 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 534 | NR | 570 | 900 | NR | 700 | 115 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 782 | NR | 575 | 918 | NR | 705 | 99 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 1000 | NR | 580 | 931 | NR | 710 | 84 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 739 | NR | 585 | 937 | NR | 715 | 71 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 393 | NR | 590 | 939 | NR | 720 | 59 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 276 | NR | 595 | 925 | NR | 725 | 49 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 190 | NR | 600 | 907 | NR | 730 | 41 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 123 | NR | 605 | 878 | NR | 735 | 35 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 105 | NR | 610 | 842 | NR | 740 | 31 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 108 | NR | 615 | 797 | NR | 745 | 28 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-176-5

Scotopic Flux vs. Wavelength



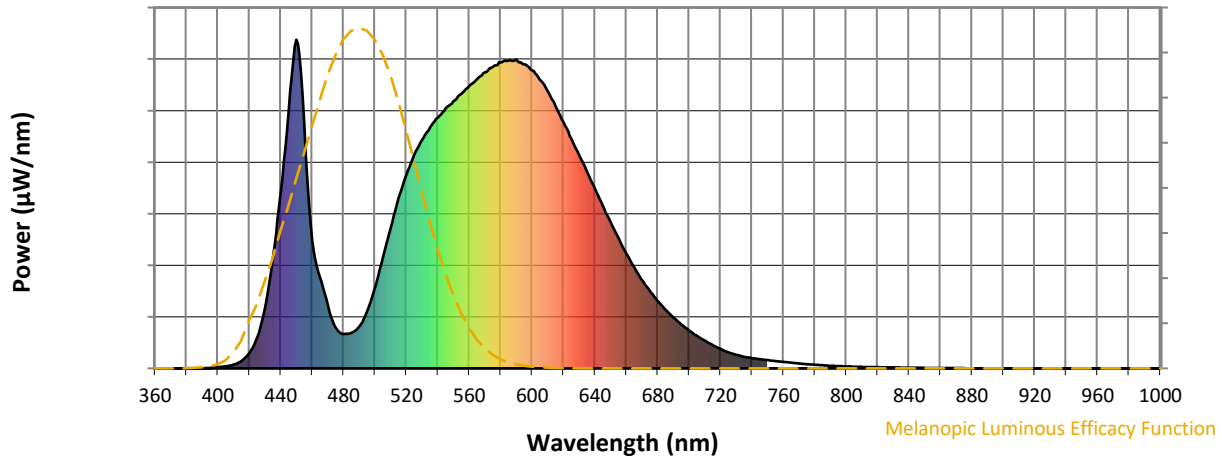
Scotopic Lumens: NR

S/P: 1.45

| 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 | 127 | NR | 620 | 748 | NR | 750 | 25 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 699 | NR | 755 | 22 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 246 | NR | 630 | 648 | NR | 760 | 20 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 335 | NR | 635 | 599 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 427 | NR | 640 | 547 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 517 | NR | 645 | 495 | NR | 775 | 13 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 589 | NR | 650 | 445 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 649 | NR | 655 | 396 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 695 | NR | 660 | 349 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 733 | NR | 665 | 308 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 763 | NR | 670 | 269 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 23 | NR | 545 | 792 | NR | 675 | 235 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 46 | NR | 550 | 813 | NR | 680 | 205 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 95 | NR | 555 | 835 | NR | 685 | 178 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 183 | NR | 560 | 859 | NR | 690 | 155 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 338 | NR | 565 | 880 | NR | 695 | 134 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 534 | NR | 570 | 900 | NR | 700 | 115 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 782 | NR | 575 | 918 | NR | 705 | 99 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 1000 | NR | 580 | 931 | NR | 710 | 84 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 739 | NR | 585 | 937 | NR | 715 | 71 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 393 | NR | 590 | 939 | NR | 720 | 59 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 276 | NR | 595 | 925 | NR | 725 | 49 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 190 | NR | 600 | 907 | NR | 730 | 41 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 123 | NR | 605 | 878 | NR | 735 | 35 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 105 | NR | 610 | 842 | NR | 740 | 31 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 108 | NR | 615 | 797 | NR | 745 | 28 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-176-5

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.76

| 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 | 127 | NR | 620 | 748 | NR | 750 | 25 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 699 | NR | 755 | 22 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 246 | NR | 630 | 648 | NR | 760 | 20 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 335 | NR | 635 | 599 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 427 | NR | 640 | 547 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 517 | NR | 645 | 495 | NR | 775 | 13 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 589 | NR | 650 | 445 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 649 | NR | 655 | 396 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 695 | NR | 660 | 349 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 733 | NR | 665 | 308 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 763 | NR | 670 | 269 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 23 | NR | 545 | 792 | NR | 675 | 235 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 46 | NR | 550 | 813 | NR | 680 | 205 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 95 | NR | 555 | 835 | NR | 685 | 178 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 183 | NR | 560 | 859 | NR | 690 | 155 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 338 | NR | 565 | 880 | NR | 695 | 134 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 534 | NR | 570 | 900 | NR | 700 | 115 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 782 | NR | 575 | 918 | NR | 705 | 99 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 1000 | NR | 580 | 931 | NR | 710 | 84 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 739 | NR | 585 | 937 | NR | 715 | 71 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 393 | NR | 590 | 939 | NR | 720 | 59 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 276 | NR | 595 | 925 | NR | 725 | 49 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 190 | NR | 600 | 907 | NR | 730 | 41 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 123 | NR | 605 | 878 | NR | 735 | 35 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 105 | NR | 610 | 842 | NR | 740 | 31 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 108 | NR | 615 | 797 | NR | 745 | 28 | NR | 875 | 1 | NR | | | |

Summary

$R_f = 75.6$
 $R_g = 94.8$
 $CIE R_a = 72.9$
 $R_g = -21.5$

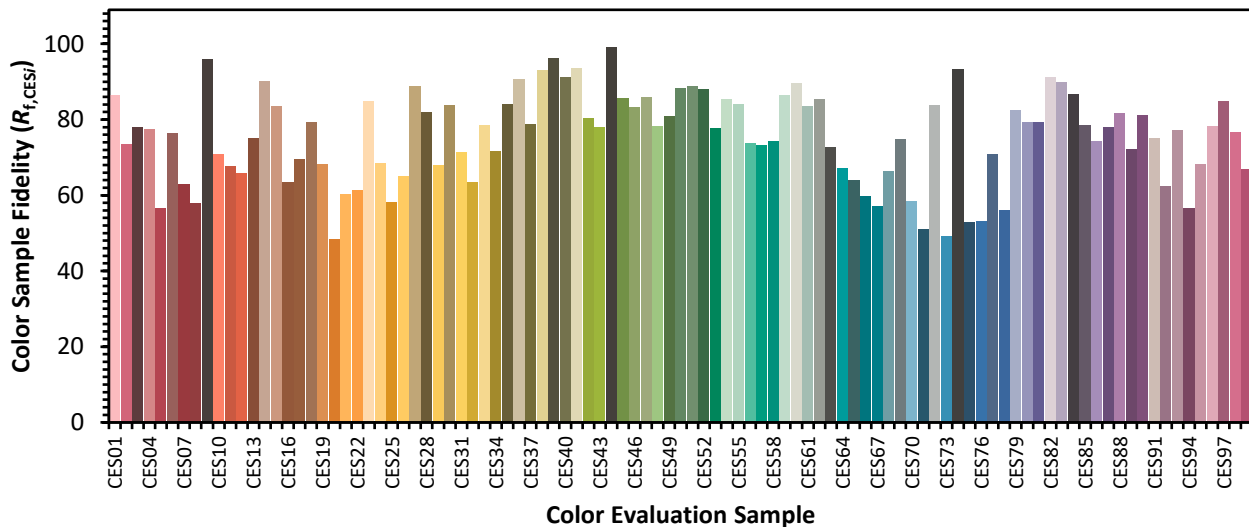


Color Vector Graphics

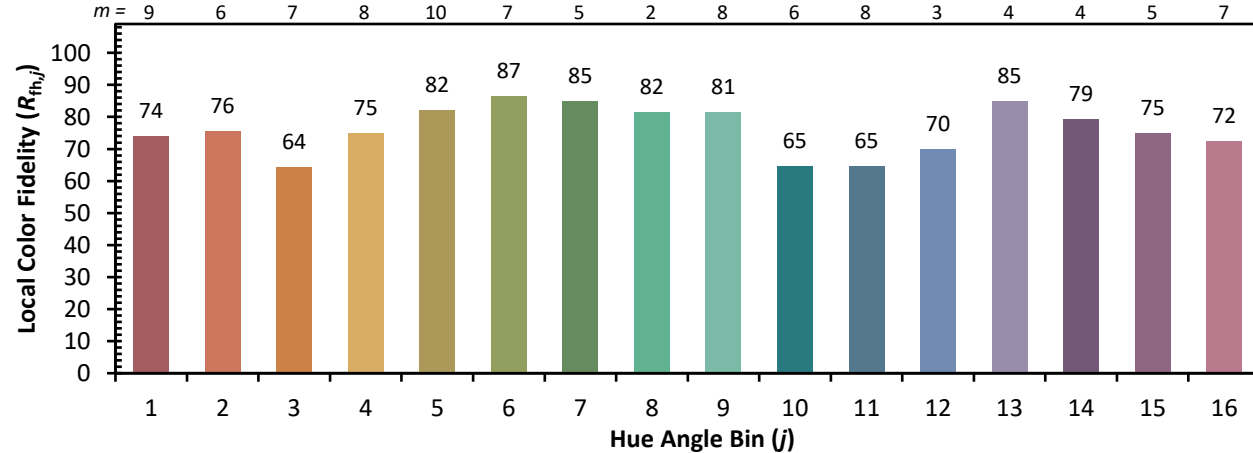


Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 65 | CES51 = 89 | CES76 = 53 |
| CES02 = 61 | CES27 = 89 | CES52 = 88 | CES77 = 71 |
| CES03 = 30 | CES28 = 82 | CES53 = 78 | CES78 = 56 |
| CES04 = 70 | CES29 = 68 | CES54 = 85 | CES79 = 83 |
| CES05 = 48 | CES30 = 84 | CES55 = 84 | CES80 = 79 |
| CES06 = 50 | CES31 = 71 | CES56 = 74 | CES81 = 79 |
| CES07 = 40 | CES32 = 63 | CES57 = 73 | CES82 = 91 |
| CES08 = 39 | CES33 = 79 | CES58 = 74 | CES83 = 90 |
| CES09 = 29 | CES34 = 72 | CES59 = 86 | CES84 = 87 |
| CES10 = 74 | CES35 = 84 | CES60 = 90 | CES85 = 78 |
| CES11 = 57 | CES36 = 91 | CES61 = 84 | CES86 = 74 |
| CES12 = 63 | CES37 = 79 | CES62 = 85 | CES87 = 78 |
| CES13 = 42 | CES38 = 93 | CES63 = 73 | CES88 = 82 |
| CES14 = 74 | CES39 = 96 | CES64 = 67 | CES89 = 72 |
| CES15 = 71 | CES40 = 91 | CES65 = 64 | CES90 = 81 |
| CES16 = 47 | CES41 = 93 | CES66 = 60 | CES91 = 75 |
| CES17 = 49 | CES42 = 80 | CES67 = 57 | CES92 = 62 |
| CES18 = 56 | CES43 = 78 | CES68 = 66 | CES93 = 77 |
| CES19 = 72 | CES44 = 99 | CES69 = 75 | CES94 = 57 |
| CES20 = 65 | CES45 = 86 | CES70 = 58 | CES95 = 68 |
| CES21 = 86 | CES46 = 83 | CES71 = 51 | CES96 = 78 |
| CES22 = 78 | CES47 = 86 | CES72 = 84 | CES97 = 85 |
| CES23 = 92 | CES48 = 78 | CES73 = 49 | CES98 = 77 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 67 |
| CES25 = 72 | CES50 = 88 | CES75 = 53 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)