

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: METALUX

Report Number: P976631

Luminaire Tested: 22SR-LD2-C-20-UNV-L840-CD1-ST-U

Issue Date: 03/18/2025

Test Information

Test Method: LM-79-2019
Report Number: P976631
Test Lab: INNOVATION CENTER(P3)
Issue Date: 03/18/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 22SR-LD2-C-20-UNV-L840-CD1-ST-U
Description: METALUX SKYRIDGE 2x2 2000LM PACKAGE 80CRI 4000K TROFFER with Straw SKYTRIM
Light Source: 4000K CCT, 80+ CRI LEDS
Ballast/Driver: -

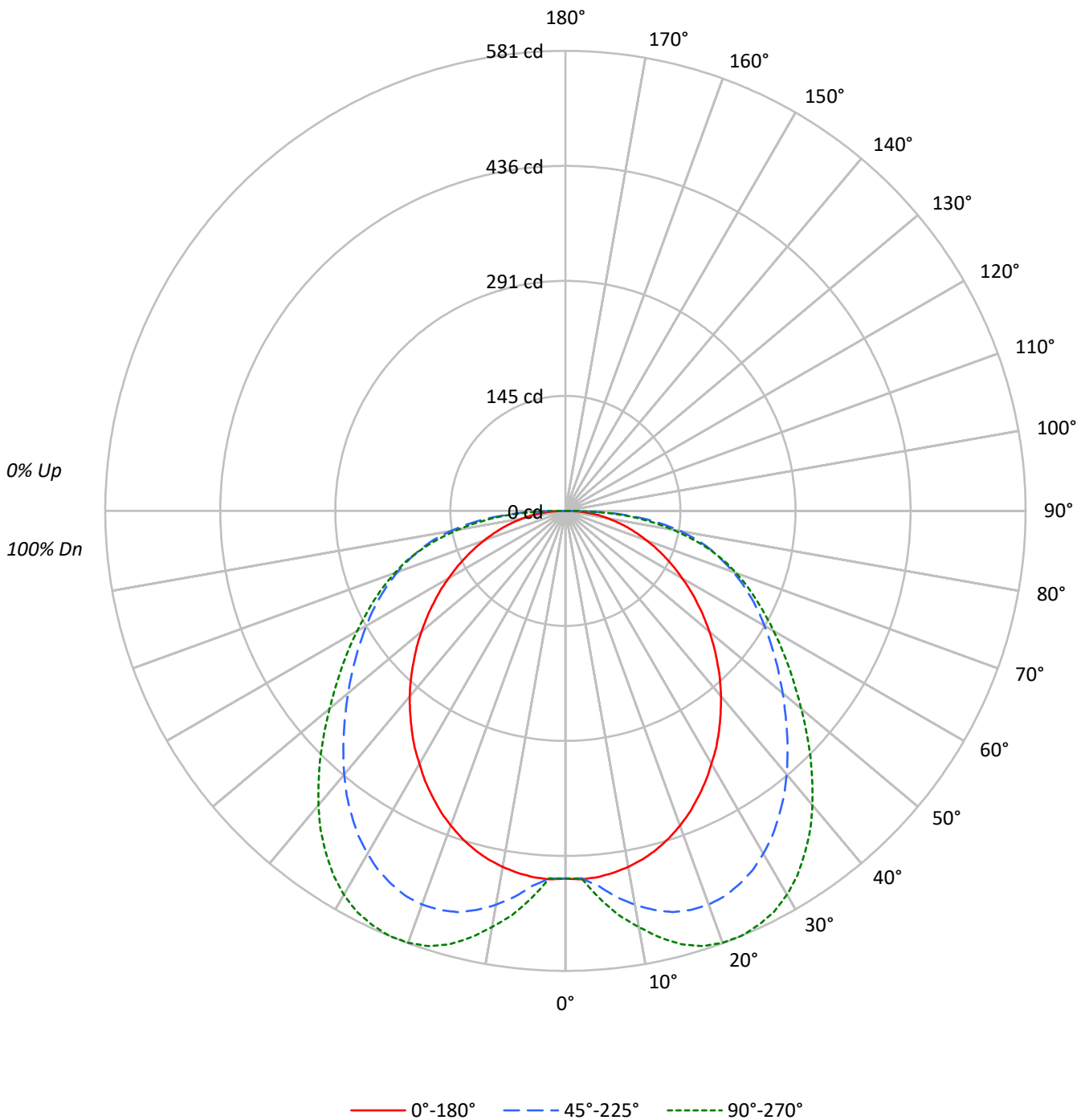
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1758.0 lumens
Efficiency: N/A
Efficacy: 127.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.62 / 1.55
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 13.8
Input Voltage (V): 120
Input Current (A_{in}): 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

TEST NUMBER: P976631
CATALOG NUMBER: 22SR-LD2-C-20-UNV-L840-CD1-ST-U

Luminous Intensity Polar Plot





TEST NUMBER: P976631

CATALOG NUMBER: 22SR-LD2-C-20-UNV-L840-CD1-ST-U

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | 100 | 100 | 100 |
| 1 | 107 | 102 | 97 | 92 | 104 | 99 | 95 | 91 | 95 | 91 | 88 | 91 | 88 | 85 | 87 | 85 | 83 | 80 | 80 | 80 | 80 |
| 2 | 97 | 87 | 80 | 74 | 94 | 86 | 79 | 73 | 82 | 76 | 71 | 79 | 74 | 69 | 75 | 71 | 68 | 65 | 65 | 65 | 65 |
| 3 | 88 | 76 | 67 | 60 | 85 | 75 | 66 | 60 | 72 | 64 | 59 | 69 | 63 | 58 | 66 | 61 | 57 | 54 | 54 | 54 | 54 |
| 4 | 80 | 67 | 58 | 51 | 78 | 66 | 57 | 50 | 63 | 56 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 46 | 46 | 46 | 46 |
| 5 | 73 | 60 | 50 | 43 | 71 | 59 | 50 | 43 | 56 | 49 | 42 | 54 | 47 | 42 | 52 | 46 | 42 | 39 | 39 | 39 | 39 |
| 6 | 68 | 54 | 44 | 38 | 66 | 53 | 44 | 37 | 51 | 43 | 37 | 49 | 42 | 37 | 47 | 41 | 36 | 34 | 34 | 34 | 34 |
| 7 | 63 | 49 | 39 | 33 | 61 | 48 | 39 | 33 | 46 | 38 | 33 | 45 | 38 | 32 | 43 | 37 | 32 | 30 | 30 | 30 | 30 |
| 8 | 58 | 44 | 35 | 29 | 57 | 43 | 35 | 29 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 | 27 | 27 | 27 | 27 |
| 9 | 54 | 40 | 32 | 26 | 53 | 40 | 32 | 26 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 24 | 24 | 24 | 24 |
| 10 | 51 | 37 | 29 | 24 | 50 | 37 | 29 | 24 | 36 | 29 | 24 | 35 | 28 | 23 | 34 | 28 | 23 | 21 | 21 | 21 | 21 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1250 | 1250 | 1250 |
| 5° | 1254 | 1284 | 1326 |
| 10° | 1248 | 1380 | 1458 |
| 15° | 1234 | 1461 | 1579 |
| 20° | 1211 | 1515 | 1662 |
| 25° | 1181 | 1544 | 1713 |
| 30° | 1145 | 1553 | 1739 |
| 35° | 1111 | 1545 | 1732 |
| 40° | 1074 | 1526 | 1704 |
| 45° | 1032 | 1506 | 1664 |
| 50° | 993 | 1499 | 1627 |
| 55° | 954 | 1516 | 1616 |
| 60° | 917 | 1562 | 1635 |
| 65° | 887 | 1645 | 1695 |
| 70° | 861 | 1773 | 1804 |
| 75° | 848 | 1980 | 1960 |
| 80° | 852 | 2289 | 2148 |
| 85° | 902 | 2822 | 2541 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 50°
 Vertical Angle: 87.5°
 Luminance: 3356 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 46.2 | 2.6 |
| 10°-20° | 145.3 | 8.3 |
| 20°-30° | 232.9 | 13.2 |
| 30°-40° | 284.4 | 16.2 |
| 40°-50° | 292.8 | 16.7 |
| 50°-60° | 271.5 | 15.4 |
| 60°-70° | 232.7 | 13.2 |
| 70°-80° | 175.0 | 10.0 |
| 80°-90° | 77.3 | 4.4 |
| 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°-30° | 424.3 | 24.1 |
| 0°-40° | 708.7 | 40.3 |
| 0°-60° | 1273.0 | 72.4 |
| 0°-90° | 1758.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1758.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 464 | 464 | 464 | 464 | 464 | |
| 5° | 464 | 464 | 475 | 486 | 491 | 44 |
| 15° | 443 | 475 | 525 | 555 | 567 | 125 |
| 25° | 398 | 456 | 520 | 562 | 577 | 183 |
| 35° | 338 | 404 | 470 | 512 | 527 | 211 |
| 45° | 271 | 338 | 396 | 427 | 437 | 210 |
| 55° | 203 | 271 | 323 | 340 | 344 | 182 |
| 65° | 139 | 210 | 258 | 264 | 266 | 138 |
| 75° | 82 | 149 | 190 | 189 | 188 | 86 |
| 85° | 29 | 69 | 91 | 84 | 82 | 31 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P976631

CATALOG NUMBER: 22SR-LD2-C-20-UNV-L840-CD1-ST-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 |
| 2.5° | 465.7 | 465.0 | 464.4 | 465.0 | 464.4 | 464.4 | 463.7 | 463.0 | 464.4 | 464.4 | 464.4 |
| 5° | 464.4 | 463.7 | 463.0 | 463.7 | 463.7 | 465.0 | 465.7 | 468.9 | 472.8 | 475.3 | 479.2 |
| 7.5° | 461.1 | 460.5 | 459.8 | 461.8 | 464.4 | 468.9 | 474.1 | 480.5 | 486.4 | 491.5 | 496.1 |
| 10° | 456.6 | 455.9 | 455.9 | 460.5 | 466.9 | 475.3 | 482.5 | 490.3 | 498.1 | 505.2 | 511.6 |
| 12.5° | 450.7 | 450.7 | 451.4 | 459.8 | 469.6 | 479.9 | 488.3 | 498.1 | 507.7 | 516.1 | 523.9 |
| 15° | 443.0 | 442.3 | 445.6 | 457.3 | 469.6 | 481.2 | 492.2 | 503.2 | 514.9 | 524.6 | 533.0 |
| 17.5° | 433.9 | 433.3 | 439.7 | 454.0 | 466.9 | 480.5 | 493.5 | 505.8 | 518.1 | 528.4 | 538.2 |
| 20° | 422.9 | 422.9 | 432.0 | 448.8 | 463.0 | 478.0 | 491.5 | 504.5 | 518.1 | 529.1 | 539.5 |
| 22.5° | 411.2 | 411.9 | 423.5 | 441.1 | 456.6 | 472.1 | 486.4 | 500.6 | 514.2 | 526.5 | 536.9 |
| 25° | 397.6 | 398.9 | 412.6 | 430.6 | 447.5 | 463.7 | 478.6 | 493.5 | 507.7 | 520.0 | 531.1 |
| 27.5° | 384.1 | 385.3 | 401.5 | 419.7 | 437.2 | 453.4 | 468.9 | 484.4 | 499.3 | 511.6 | 522.7 |
| 30° | 368.5 | 371.8 | 388.0 | 406.7 | 424.9 | 441.1 | 457.3 | 472.8 | 487.0 | 499.9 | 511.6 |
| 32.5° | 354.3 | 356.8 | 375.0 | 393.1 | 411.9 | 428.1 | 444.3 | 459.1 | 473.4 | 486.4 | 497.4 |
| 35° | 338.1 | 341.9 | 360.1 | 378.2 | 396.4 | 412.6 | 428.8 | 443.6 | 457.9 | 470.2 | 481.2 |
| 37.5° | 321.9 | 327.1 | 344.5 | 363.3 | 380.8 | 397.0 | 413.2 | 427.4 | 441.7 | 453.4 | 463.7 |
| 40° | 305.7 | 310.2 | 328.3 | 346.5 | 364.6 | 380.2 | 395.7 | 409.3 | 422.9 | 434.5 | 444.3 |
| 42.5° | 288.8 | 294.0 | 312.1 | 329.6 | 347.2 | 362.7 | 378.2 | 391.8 | 404.8 | 415.1 | 424.2 |
| 45° | 271.3 | 277.9 | 295.3 | 312.8 | 330.3 | 345.8 | 360.7 | 373.7 | 385.3 | 395.7 | 404.1 |
| 47.5° | 254.6 | 261.7 | 279.1 | 296.6 | 313.4 | 328.3 | 343.3 | 356.2 | 367.2 | 376.3 | 384.1 |
| 50° | 237.1 | 245.5 | 262.3 | 279.1 | 296.6 | 311.6 | 325.8 | 337.4 | 349.0 | 358.1 | 364.6 |
| 52.5° | 220.2 | 228.6 | 246.1 | 262.9 | 279.7 | 294.7 | 308.9 | 321.2 | 331.6 | 340.1 | 347.2 |
| 55° | 203.3 | 212.4 | 230.0 | 246.7 | 263.6 | 278.5 | 292.7 | 304.4 | 314.8 | 323.2 | 329.0 |
| 57.5° | 187.2 | 196.9 | 213.8 | 231.2 | 248.0 | 262.9 | 277.2 | 288.8 | 298.6 | 306.3 | 312.1 |
| 60° | 170.3 | 181.3 | 198.1 | 215.0 | 232.5 | 248.0 | 261.7 | 273.3 | 283.1 | 290.2 | 295.3 |
| 62.5° | 154.8 | 165.8 | 182.6 | 200.1 | 217.6 | 233.2 | 246.7 | 258.4 | 267.4 | 274.6 | 278.5 |
| 65° | 139.3 | 150.9 | 167.8 | 185.3 | 202.7 | 218.2 | 231.8 | 243.5 | 251.9 | 258.4 | 262.3 |
| 67.5° | 124.3 | 136.0 | 152.8 | 170.3 | 187.8 | 203.3 | 217.0 | 228.0 | 236.4 | 242.3 | 244.8 |
| 70° | 109.4 | 121.1 | 137.9 | 155.4 | 172.3 | 188.5 | 202.0 | 212.4 | 220.9 | 225.4 | 227.3 |
| 72.5° | 95.2 | 107.5 | 123.7 | 139.9 | 157.3 | 173.0 | 186.5 | 197.5 | 204.0 | 207.9 | 211.1 |
| 75° | 81.6 | 93.2 | 108.8 | 125.0 | 141.2 | 157.3 | 170.3 | 180.1 | 186.5 | 190.4 | 191.7 |
| 77.5° | 68.0 | 79.6 | 94.6 | 109.4 | 125.6 | 140.5 | 153.5 | 162.5 | 167.8 | 171.0 | 173.0 |
| 80° | 55.0 | 65.4 | 79.0 | 93.2 | 108.1 | 121.7 | 133.4 | 141.8 | 146.4 | 147.7 | 147.7 |
| 82.5° | 42.8 | 51.1 | 62.9 | 75.2 | 88.0 | 100.3 | 110.8 | 117.2 | 120.4 | 121.1 | 120.4 |
| 85° | 29.2 | 34.9 | 44.0 | 53.8 | 63.4 | 74.5 | 83.5 | 88.0 | 90.0 | 91.4 | 90.0 |
| 87.5° | 15.5 | 17.5 | 22.6 | 28.5 | 35.6 | 42.8 | 48.6 | 51.8 | 53.8 | 53.8 | 54.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P976631

CATALOG NUMBER: 22SR-LD2-C-20-UNV-L840-CD1-ST-U

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 | 464.4 |
| 2.5° | 464.4 | 464.4 | 465.0 | 464.4 | 464.4 | 465.0 | 464.4 | 464.4 |
| 5° | 481.2 | 482.5 | 485.7 | 487.0 | 487.6 | 489.6 | 489.6 | 490.9 |
| 7.5° | 499.3 | 502.6 | 505.8 | 508.4 | 510.4 | 512.9 | 513.6 | 514.9 |
| 10° | 516.1 | 520.0 | 523.9 | 527.8 | 530.4 | 531.7 | 533.0 | 533.6 |
| 12.5° | 529.8 | 535.0 | 540.1 | 544.0 | 547.3 | 549.2 | 551.2 | 551.8 |
| 15° | 539.5 | 546.6 | 552.4 | 557.6 | 560.8 | 563.5 | 565.4 | 566.7 |
| 17.5° | 546.0 | 553.7 | 560.2 | 566.0 | 569.9 | 572.5 | 575.1 | 576.3 |
| 20° | 547.8 | 555.7 | 563.5 | 569.2 | 573.8 | 577.0 | 579.0 | 580.3 |
| 22.5° | 546.0 | 554.4 | 562.1 | 568.6 | 573.1 | 577.0 | 579.0 | 580.9 |
| 25° | 540.7 | 549.8 | 558.3 | 564.7 | 569.9 | 573.8 | 575.8 | 577.0 |
| 27.5° | 533.0 | 542.7 | 551.2 | 557.6 | 562.8 | 566.7 | 569.2 | 570.6 |
| 30° | 522.0 | 531.1 | 540.1 | 546.6 | 551.8 | 555.7 | 558.3 | 559.6 |
| 32.5° | 508.4 | 517.5 | 525.9 | 532.3 | 538.2 | 541.4 | 544.0 | 545.3 |
| 35° | 491.5 | 500.6 | 509.0 | 514.9 | 520.7 | 523.9 | 526.5 | 527.2 |
| 37.5° | 473.4 | 482.5 | 490.3 | 495.4 | 501.3 | 503.8 | 507.0 | 507.7 |
| 40° | 453.4 | 461.8 | 468.9 | 474.1 | 479.2 | 481.9 | 483.8 | 485.1 |
| 42.5° | 432.6 | 440.4 | 447.5 | 452.0 | 455.9 | 458.5 | 461.1 | 461.1 |
| 45° | 412.6 | 418.3 | 424.9 | 428.8 | 432.6 | 434.5 | 436.5 | 437.2 |
| 47.5° | 391.8 | 397.6 | 402.8 | 405.4 | 409.3 | 410.6 | 411.9 | 412.6 |
| 50° | 371.8 | 376.9 | 380.8 | 383.4 | 386.0 | 387.3 | 388.6 | 388.6 |
| 52.5° | 352.3 | 356.8 | 360.1 | 361.4 | 364.0 | 364.6 | 365.2 | 365.9 |
| 55° | 334.2 | 337.4 | 340.1 | 340.6 | 342.6 | 342.6 | 343.9 | 344.5 |
| 57.5° | 316.7 | 318.7 | 320.5 | 320.5 | 321.9 | 321.9 | 323.2 | 323.8 |
| 60° | 299.2 | 300.5 | 301.1 | 301.1 | 302.5 | 301.8 | 303.1 | 303.7 |
| 62.5° | 281.7 | 282.4 | 282.4 | 282.4 | 283.1 | 283.1 | 283.6 | 284.3 |
| 65° | 264.2 | 264.2 | 264.2 | 264.2 | 264.9 | 264.2 | 265.5 | 266.2 |
| 67.5° | 246.7 | 246.1 | 246.1 | 245.5 | 246.7 | 246.1 | 247.4 | 248.0 |
| 70° | 228.6 | 228.6 | 227.3 | 227.3 | 228.0 | 228.6 | 229.3 | 229.3 |
| 72.5° | 210.4 | 209.2 | 209.2 | 208.6 | 209.2 | 209.8 | 211.1 | 210.4 |
| 75° | 191.7 | 191.0 | 189.7 | 189.1 | 189.1 | 188.5 | 189.1 | 188.5 |
| 77.5° | 169.6 | 167.8 | 165.1 | 164.5 | 163.2 | 162.5 | 163.2 | 163.9 |
| 80° | 143.8 | 141.8 | 139.9 | 139.3 | 137.9 | 137.9 | 137.9 | 138.6 |
| 82.5° | 116.5 | 115.3 | 113.3 | 113.3 | 112.0 | 112.0 | 112.0 | 111.4 |
| 85° | 86.1 | 85.5 | 84.2 | 84.2 | 82.9 | 82.9 | 82.9 | 82.3 |
| 87.5° | 50.6 | 50.6 | 49.2 | 49.9 | 47.9 | 47.9 | 47.9 | 48.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P976631
 CATALOG NUMBER: 22SR-LD2-C-20-UNV-L840-CD1-ST-U

CIE UGR TABLE:

| Reflectances: | | | | | | | | | | | |
|-----------------|------|------------------|------|------|------|------|----------------|------|------|------|------|
| Ceiling | | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room Dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H | Y=2H | 12.1 | 13.9 | 12.5 | 14.2 | 14.5 | 14.1 | 15.8 | 14.4 | 16.1 | 16.4 |
| | 3H | 14.0 | 15.5 | 14.3 | 15.8 | 16.2 | 16.5 | 18.0 | 16.9 | 18.4 | 18.7 |
| | 4H | 14.7 | 16.2 | 15.1 | 16.5 | 16.9 | 17.6 | 19.1 | 18.0 | 19.4 | 19.8 |
| | 6H | 15.3 | 16.6 | 15.7 | 17.0 | 17.4 | 18.6 | 20.0 | 19.0 | 20.3 | 20.7 |
| | 8H | 15.5 | 16.8 | 15.9 | 17.2 | 17.6 | 19.0 | 20.3 | 19.4 | 20.7 | 21.1 |
| | 12H | 15.6 | 16.9 | 16.1 | 17.3 | 17.7 | 19.4 | 20.7 | 19.8 | 21.1 | 21.5 |
| 4H | 2H | 13.5 | 14.9 | 13.9 | 15.3 | 15.7 | 14.8 | 16.3 | 15.2 | 16.7 | 17.0 |
| | 3H | 15.7 | 17.0 | 16.1 | 17.4 | 17.8 | 17.5 | 18.8 | 17.9 | 19.2 | 19.6 |
| | 4H | 16.7 | 17.9 | 17.1 | 18.3 | 18.7 | 18.8 | 20.0 | 19.2 | 20.4 | 20.8 |
| | 6H | 17.5 | 18.5 | 18.0 | 19.0 | 19.4 | 20.0 | 21.0 | 20.4 | 21.4 | 21.9 |
| | 8H | 17.8 | 18.8 | 18.3 | 19.2 | 19.7 | 20.5 | 21.4 | 20.9 | 21.9 | 22.3 |
| | 12H | 18.0 | 18.9 | 18.5 | 19.4 | 19.8 | 20.9 | 21.8 | 21.4 | 22.3 | 22.7 |
| 8H | 4H | 17.7 | 18.6 | 18.1 | 19.1 | 19.5 | 19.3 | 20.3 | 19.8 | 20.7 | 21.2 |
| | 6H | 18.9 | 19.7 | 19.3 | 20.1 | 20.6 | 20.7 | 21.5 | 21.2 | 22.0 | 22.5 |
| | 8H | 19.3 | 20.1 | 19.8 | 20.6 | 21.1 | 21.3 | 22.1 | 21.8 | 22.6 | 23.1 |
| | 12H | 19.7 | 20.4 | 20.2 | 20.8 | 21.4 | 22.0 | 22.6 | 22.5 | 23.1 | 23.6 |
| 12H | 4H | 17.9 | 18.7 | 18.3 | 19.2 | 19.7 | 19.4 | 20.3 | 19.9 | 20.8 | 21.2 |
| | 6H | 19.2 | 19.9 | 19.7 | 20.4 | 20.9 | 20.9 | 21.6 | 21.4 | 22.1 | 22.6 |
| | 8H | 19.8 | 20.5 | 20.3 | 21.0 | 21.5 | 21.6 | 22.3 | 22.1 | 22.7 | 23.3 |

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-457-7

Test Date: 07/02/2025

Luminaire Tested: 24SR-LD2-64-C-UNV-L940-CD1-U

Data in this report applies to families of products including 24SR-LD2-64-C-UNV-L940-CD1-U

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-457-7
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 07/02/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Metalux
 Catalog Number: **24SR-LD2-64-C-UNV-L940-CD1-U**
 Description: 2X4 SKYRIDGE 6400LM Fixture with new LTN chip

Spectral Parameters

CCT (K): 3850
 CIE u': 0.2283
 CIE v': 0.5037
 Duv: -0.0006
 CIE x: 0.3868
 CIE y: 0.3794
 CIE z: 0.2338
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 579
 Purity: 29.94798
 Rf: 91.3
 Rg: 99.8

CRI (Ra): 94.0
 R1: 95.3
 R2: 96.3
 R3: 95.7
 R4: 95.2
 R5: 94.4
 R6: 94.3
 R7: 94.1
 R8: 86.7
 R9: 65.3
 R10: 89.6
 R11: 95.5
 R12: 76.1
 R13: 95.5
 R14: 96.8
 R15: 92.3



Test Conditions

Stabilization Time: 38M
 Operation Time: 1H 38M
 Sphere Temperature (°C): 24.4

REPORT NUMBER: SP1-2506-457-7

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 6/16/2025 | 12/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 10/22/2024 | 10/22/2025 |
| DC Power Source | AGILENT E3634A IN0208 | 10/22/2024 | 10/22/2025 |
| Sphere Thermometer | ONSET IN0085 | 10/22/2024 | 10/22/2025 |
| Room Thermometer | ONSET IN0046 | 10/22/2024 | 10/22/2025 |

REPORT NUMBER: SP1-2506-457-7

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 4000K 4-step quadrangle

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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 | 173 | NR | 620 | 343 | NR | 750 | 8 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 201 | NR | 625 | 342 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 231 | NR | 630 | 1000 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 253 | NR | 635 | 692 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 226 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 277 | NR | 645 | 214 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 284 | NR | 650 | 190 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 290 | NR | 655 | 160 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 296 | NR | 660 | 136 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 303 | NR | 665 | 115 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 8 | NR | 540 | 310 | NR | 670 | 106 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 13 | NR | 545 | 316 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 22 | NR | 550 | 323 | NR | 680 | 75 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 37 | NR | 555 | 330 | NR | 685 | 64 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 62 | NR | 560 | 335 | NR | 690 | 55 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 102 | NR | 565 | 340 | NR | 695 | 47 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 164 | NR | 570 | 342 | NR | 700 | 40 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 281 | NR | 575 | 345 | NR | 705 | 34 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 423 | NR | 580 | 348 | NR | 710 | 29 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 384 | NR | 585 | 350 | NR | 715 | 25 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 256 | NR | 590 | 351 | NR | 720 | 21 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 208 | NR | 595 | 348 | NR | 725 | 17 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 169 | NR | 600 | 348 | NR | 730 | 14 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 135 | NR | 605 | 347 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 133 | NR | 610 | 379 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 149 | NR | 615 | 406 | NR | 745 | 9 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-457-7

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.74

| 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 | 173 | NR | 620 | 343 | NR | 750 | 8 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 201 | NR | 625 | 342 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 231 | NR | 630 | 1000 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 253 | NR | 635 | 692 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 226 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 277 | NR | 645 | 214 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 284 | NR | 650 | 190 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 290 | NR | 655 | 160 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 296 | NR | 660 | 136 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 303 | NR | 665 | 115 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 8 | NR | 540 | 310 | NR | 670 | 106 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 13 | NR | 545 | 316 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 22 | NR | 550 | 323 | NR | 680 | 75 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 37 | NR | 555 | 330 | NR | 685 | 64 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 62 | NR | 560 | 335 | NR | 690 | 55 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 102 | NR | 565 | 340 | NR | 695 | 47 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 164 | NR | 570 | 342 | NR | 700 | 40 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 281 | NR | 575 | 345 | NR | 705 | 34 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 423 | NR | 580 | 348 | NR | 710 | 29 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 384 | NR | 585 | 350 | NR | 715 | 25 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 256 | NR | 590 | 351 | NR | 720 | 21 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 208 | NR | 595 | 348 | NR | 725 | 17 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 169 | NR | 600 | 348 | NR | 730 | 14 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 135 | NR | 605 | 347 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 133 | NR | 610 | 379 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 149 | NR | 615 | 406 | NR | 745 | 9 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-457-7

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.6

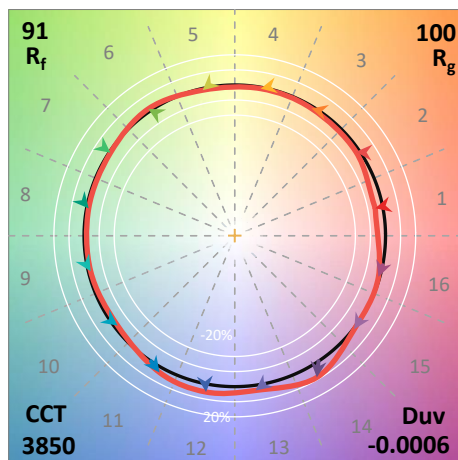
| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 173 | NR | 620 | 343 | NR | 750 | 8 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 201 | NR | 625 | 342 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 231 | NR | 630 | 1000 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 253 | NR | 635 | 692 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 226 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 277 | NR | 645 | 214 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 284 | NR | 650 | 190 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 290 | NR | 655 | 160 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 296 | NR | 660 | 136 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 303 | NR | 665 | 115 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 8 | NR | 540 | 310 | NR | 670 | 106 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 13 | NR | 545 | 316 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 22 | NR | 550 | 323 | NR | 680 | 75 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 37 | NR | 555 | 330 | NR | 685 | 64 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 62 | NR | 560 | 335 | NR | 690 | 55 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 102 | NR | 565 | 340 | NR | 695 | 47 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 164 | NR | 570 | 342 | NR | 700 | 40 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 281 | NR | 575 | 345 | NR | 705 | 34 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 423 | NR | 580 | 348 | NR | 710 | 29 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 384 | NR | 585 | 350 | NR | 715 | 25 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 256 | NR | 590 | 351 | NR | 720 | 21 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 208 | NR | 595 | 348 | NR | 725 | 17 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 169 | NR | 600 | 348 | NR | 730 | 14 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 135 | NR | 605 | 347 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 133 | NR | 610 | 379 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 149 | NR | 615 | 406 | NR | 745 | 9 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 91.3$
 $R_g = 99.8$
 $CIE R_a = 94.0$
 $R_9 = 65.3$



Color Vector Graphics

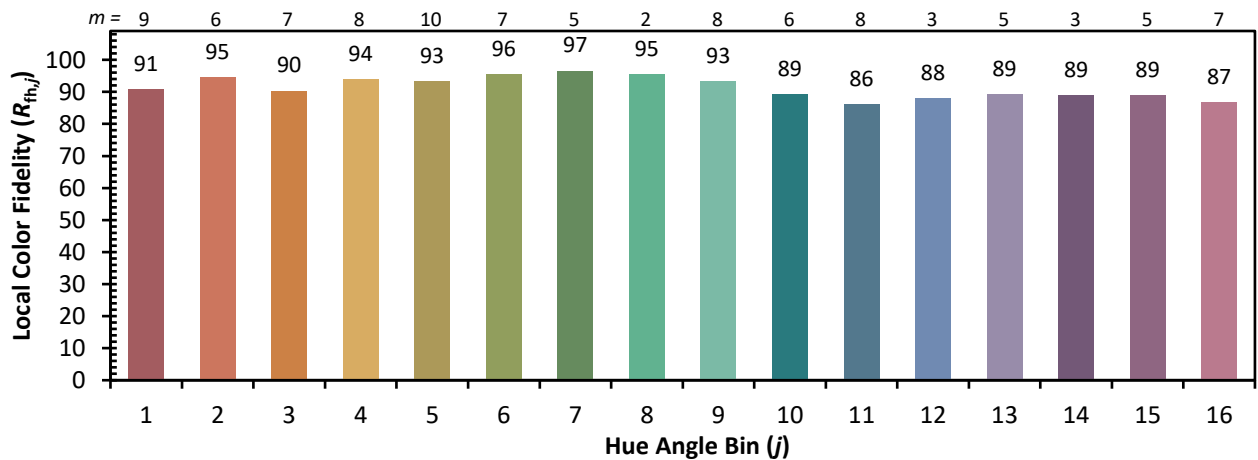


Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 93 | CES51 = 98 | CES76 = 87 |
| CES02 = 62 | CES27 = 91 | CES52 = 99 | CES77 = 88 |
| CES03 = 31 | CES28 = 96 | CES53 = 97 | CES78 = 83 |
| CES04 = 69 | CES29 = 96 | CES54 = 94 | CES79 = 93 |
| CES05 = 49 | CES30 = 93 | CES55 = 92 | CES80 = 92 |
| CES06 = 50 | CES31 = 96 | CES56 = 95 | CES81 = 79 |
| CES07 = 42 | CES32 = 88 | CES57 = 94 | CES82 = 96 |
| CES08 = 41 | CES33 = 99 | CES58 = 95 | CES83 = 95 |
| CES09 = 29 | CES34 = 93 | CES59 = 97 | CES84 = 94 |
| CES10 = 74 | CES35 = 96 | CES60 = 93 | CES85 = 81 |
| CES11 = 57 | CES36 = 81 | CES61 = 92 | CES86 = 83 |
| CES12 = 63 | CES37 = 94 | CES62 = 87 | CES87 = 92 |
| CES13 = 43 | CES38 = 88 | CES63 = 93 | CES88 = 98 |
| CES14 = 74 | CES39 = 99 | CES64 = 91 | CES89 = 85 |
| CES15 = 71 | CES40 = 97 | CES65 = 89 | CES90 = 97 |
| CES16 = 47 | CES41 = 97 | CES66 = 88 | CES91 = 73 |
| CES17 = 49 | CES42 = 93 | CES67 = 87 | CES92 = 77 |
| CES18 = 56 | CES43 = 93 | CES68 = 88 | CES93 = 86 |
| CES19 = 71 | CES44 = 99 | CES69 = 89 | CES94 = 76 |
| CES20 = 66 | CES45 = 96 | CES70 = 86 | CES95 = 83 |
| CES21 = 85 | CES46 = 97 | CES71 = 81 | CES96 = 92 |
| CES22 = 78 | CES47 = 93 | CES72 = 94 | CES97 = 95 |
| CES23 = 91 | CES48 = 92 | CES73 = 80 | CES98 = 95 |
| CES24 = 90 | CES49 = 96 | CES74 = 91 | CES99 = 93 |
| CES25 = 71 | CES50 = 98 | CES75 = 83 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)