

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: P976655

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

Issue Date: 03/18/2025

Test Information

Test Method: LM-79-2019
Report Number: P976655
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-TB-U
Description: METALUX SKYRIDGE 2x2 2000LM PACKAGE 80CRI 4000K TROFFER with Tahitian Blue SKYTRIM
Light Source: 4000K CCT, 80+ CRI LEDS
Ballast/Driver: -

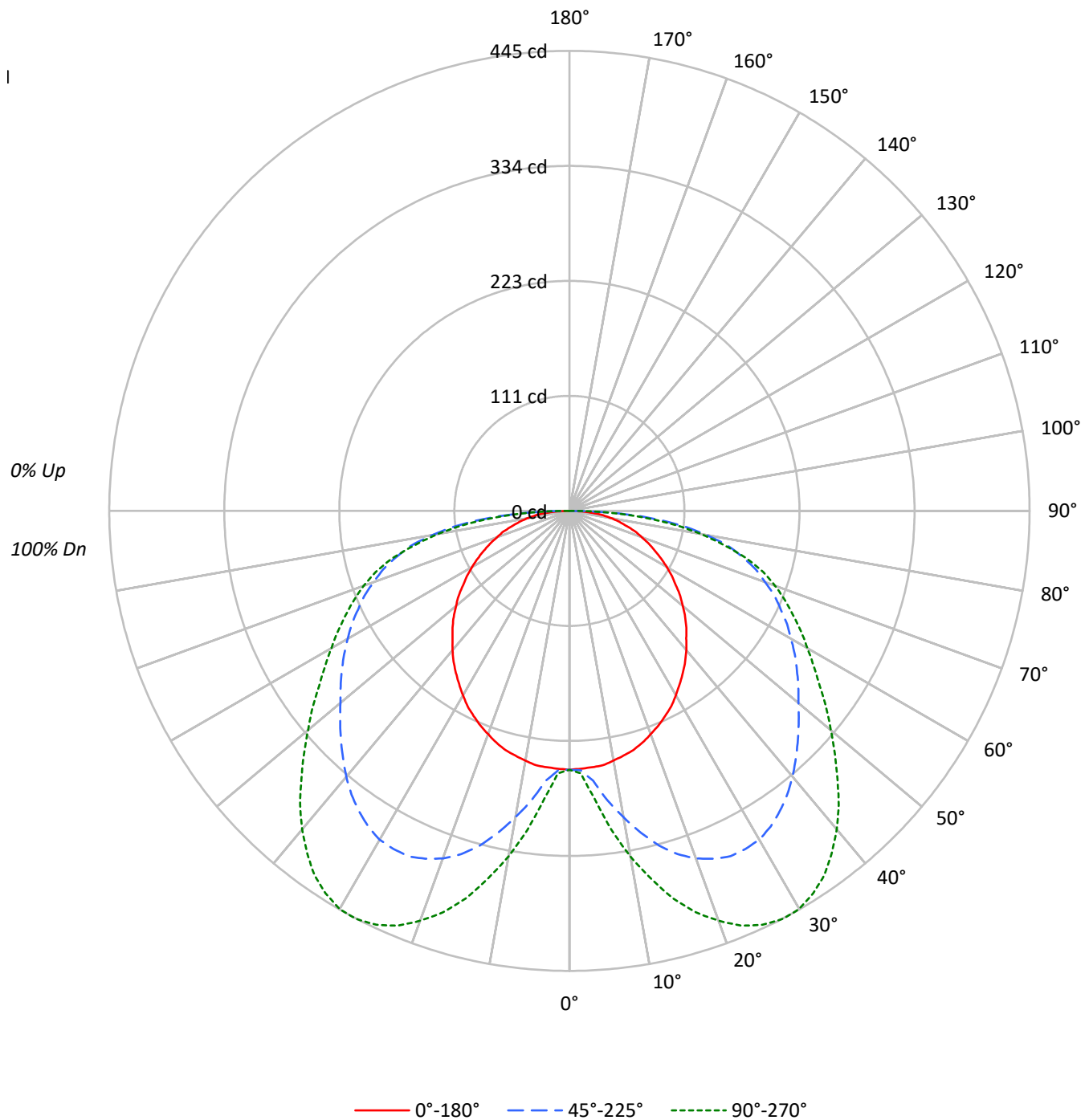
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1356.0 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 2.03 / 1.86
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: P976655
CATALOG NUMBER: 22SR-LD2-C-20-UNV-L840-CD1-TB-U

Luminous Intensity Polar Plot





TEST NUMBER: P976655

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

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 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 | 102 | 102 | 102 | 100 |
| 1 | 106 | 101 | 95 | 91 | 104 | 98 | 93 | 89 | 94 | 90 | 86 | 90 | 87 | 84 | 86 | 84 | 81 | 81 | 81 | 81 | 79 |
| 2 | 95 | 86 | 78 | 71 | 93 | 84 | 77 | 70 | 80 | 74 | 69 | 77 | 72 | 67 | 74 | 69 | 66 | 66 | 66 | 66 | 63 |
| 3 | 86 | 74 | 65 | 58 | 83 | 73 | 64 | 57 | 69 | 62 | 56 | 67 | 60 | 55 | 64 | 59 | 54 | 54 | 54 | 54 | 52 |
| 4 | 78 | 65 | 55 | 48 | 76 | 64 | 54 | 47 | 61 | 53 | 47 | 59 | 52 | 46 | 56 | 50 | 45 | 45 | 45 | 45 | 43 |
| 5 | 72 | 58 | 48 | 40 | 69 | 56 | 47 | 40 | 54 | 46 | 40 | 52 | 45 | 39 | 50 | 44 | 39 | 39 | 39 | 39 | 36 |
| 6 | 66 | 51 | 42 | 35 | 64 | 50 | 41 | 35 | 49 | 40 | 34 | 47 | 39 | 34 | 45 | 39 | 34 | 34 | 34 | 34 | 31 |
| 7 | 61 | 46 | 37 | 30 | 59 | 45 | 37 | 30 | 44 | 36 | 30 | 42 | 35 | 30 | 41 | 34 | 29 | 29 | 29 | 29 | 27 |
| 8 | 56 | 42 | 33 | 27 | 55 | 41 | 33 | 27 | 40 | 32 | 26 | 39 | 31 | 26 | 37 | 31 | 26 | 26 | 26 | 26 | 24 |
| 9 | 53 | 38 | 30 | 24 | 51 | 38 | 29 | 24 | 37 | 29 | 24 | 35 | 28 | 23 | 34 | 28 | 23 | 23 | 23 | 23 | 21 |
| 10 | 49 | 35 | 27 | 21 | 48 | 35 | 27 | 21 | 34 | 26 | 21 | 33 | 26 | 21 | 32 | 25 | 21 | 21 | 21 | 21 | 19 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-----|------|------|
| 0° | 674 | 674 | 674 |
| 5° | 672 | 708 | 755 |
| 10° | 670 | 822 | 928 |
| 15° | 667 | 934 | 1082 |
| 20° | 658 | 1024 | 1208 |
| 25° | 650 | 1094 | 1311 |
| 30° | 640 | 1141 | 1381 |
| 35° | 628 | 1165 | 1413 |
| 40° | 618 | 1179 | 1413 |
| 45° | 608 | 1189 | 1395 |
| 50° | 599 | 1210 | 1382 |
| 55° | 589 | 1260 | 1387 |
| 60° | 586 | 1332 | 1431 |
| 65° | 581 | 1436 | 1520 |
| 70° | 586 | 1585 | 1666 |
| 75° | 600 | 1806 | 1844 |
| 80° | 645 | 2094 | 2002 |
| 85° | 698 | 2411 | 2186 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 50°
 Vertical Angle: 87.5°
 Luminance: 2566 cd/sqm



TEST NUMBER: P976655
 CATALOG NUMBER: 22SR-LD2-C-20-UNV-L840-CD1-TB-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 26.2 | 1.9 |
| 10°-20° | 92.2 | 6.8 |
| 20°-30° | 162.1 | 12.0 |
| 30°-40° | 210.3 | 15.5 |
| 40°-50° | 225.8 | 16.7 |
| 50°-60° | 219.1 | 16.2 |
| 60°-70° | 197.9 | 14.6 |
| 70°-80° | 155.9 | 11.5 |
| 80°-90° | 66.5 | 4.9 |
| 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° | 280.5 | 20.7 |
| 0°-40° | 490.8 | 36.2 |
| 0°-60° | 935.7 | 69.0 |
| 0°-90° | 1356.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1356.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 250 | 250 | 250 | 250 | 250 | |
| 5° | 249 | 251 | 262 | 275 | 280 | 24 |
| 15° | 239 | 277 | 335 | 375 | 388 | 67 |
| 25° | 219 | 286 | 369 | 423 | 442 | 101 |
| 35° | 191 | 270 | 355 | 411 | 430 | 120 |
| 45° | 160 | 237 | 312 | 354 | 366 | 123 |
| 55° | 126 | 203 | 269 | 292 | 296 | 113 |
| 65° | 91 | 168 | 226 | 236 | 239 | 91 |
| 75° | 58 | 126 | 174 | 176 | 177 | 61 |
| 85° | 23 | 57 | 78 | 73 | 71 | 24 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P976655
 CATALOG NUMBER: 22SR-LD2-C-20-UNV-L840-CD1-TB-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 |
| 2.5° | 249.6 | 249.6 | 249.6 | 249.6 | 250.4 | 249.6 | 250.4 | 251.1 | 251.1 | 251.1 | 251.9 |
| 5° | 248.9 | 249.6 | 249.6 | 249.6 | 250.4 | 251.9 | 253.3 | 256.3 | 259.9 | 262.0 | 265.0 |
| 7.5° | 248.2 | 248.2 | 248.2 | 249.6 | 252.5 | 257.7 | 263.5 | 270.1 | 276.6 | 282.5 | 288.4 |
| 10° | 245.3 | 246.0 | 246.8 | 251.1 | 257.7 | 266.4 | 275.9 | 285.4 | 292.8 | 300.8 | 308.8 |
| 12.5° | 242.4 | 243.1 | 246.0 | 253.3 | 264.3 | 275.9 | 286.9 | 298.6 | 310.2 | 319.0 | 329.2 |
| 15° | 239.4 | 240.2 | 244.5 | 256.3 | 270.1 | 283.3 | 297.1 | 311.0 | 322.6 | 335.1 | 346.0 |
| 17.5° | 235.0 | 235.8 | 243.1 | 258.4 | 273.8 | 289.8 | 305.1 | 321.2 | 335.1 | 348.2 | 359.9 |
| 20° | 229.9 | 231.4 | 240.9 | 258.4 | 275.9 | 293.5 | 311.0 | 327.7 | 343.1 | 357.7 | 371.6 |
| 22.5° | 224.8 | 227.0 | 238.7 | 258.4 | 277.4 | 296.4 | 315.4 | 332.9 | 349.0 | 364.2 | 378.8 |
| 25° | 219.0 | 221.2 | 235.8 | 257.0 | 276.6 | 296.4 | 316.9 | 335.1 | 351.9 | 368.6 | 383.2 |
| 27.5° | 213.2 | 216.0 | 232.2 | 253.3 | 274.5 | 294.9 | 315.4 | 334.4 | 351.9 | 368.6 | 384.7 |
| 30° | 205.9 | 209.5 | 227.8 | 249.6 | 270.9 | 292.0 | 312.5 | 332.1 | 349.6 | 367.2 | 382.5 |
| 32.5° | 198.5 | 202.9 | 221.9 | 243.8 | 265.8 | 286.9 | 307.4 | 327.0 | 344.6 | 362.1 | 378.1 |
| 35° | 191.3 | 196.4 | 216.0 | 238.0 | 259.9 | 280.3 | 300.8 | 320.5 | 338.0 | 354.7 | 370.8 |
| 37.5° | 183.9 | 189.1 | 208.8 | 230.7 | 252.5 | 273.0 | 292.8 | 311.7 | 330.0 | 346.0 | 361.4 |
| 40° | 175.9 | 181.8 | 202.2 | 223.4 | 244.5 | 265.0 | 284.0 | 303.0 | 319.7 | 335.7 | 349.6 |
| 42.5° | 167.2 | 174.4 | 194.2 | 215.3 | 235.8 | 255.5 | 274.5 | 292.8 | 309.5 | 324.1 | 337.2 |
| 45° | 159.8 | 166.4 | 186.2 | 207.3 | 227.0 | 246.8 | 265.8 | 283.3 | 298.6 | 312.5 | 324.9 |
| 47.5° | 151.8 | 159.2 | 178.2 | 199.3 | 219.0 | 237.3 | 256.3 | 272.3 | 287.6 | 300.8 | 312.5 |
| 50° | 143.1 | 151.8 | 170.1 | 190.5 | 210.9 | 229.2 | 247.5 | 262.8 | 277.4 | 289.1 | 300.0 |
| 52.5° | 135.1 | 143.8 | 162.8 | 182.5 | 202.2 | 221.2 | 237.3 | 253.3 | 267.1 | 278.9 | 288.4 |
| 55° | 125.6 | 136.6 | 154.8 | 174.4 | 193.4 | 212.4 | 229.2 | 244.5 | 257.7 | 268.6 | 277.4 |
| 57.5° | 117.6 | 128.5 | 146.7 | 166.4 | 185.4 | 203.7 | 220.4 | 235.0 | 248.2 | 258.4 | 265.8 |
| 60° | 108.8 | 120.5 | 138.7 | 158.4 | 176.7 | 194.9 | 211.7 | 226.3 | 238.0 | 247.5 | 254.8 |
| 62.5° | 100.0 | 112.4 | 130.7 | 149.7 | 167.9 | 186.2 | 202.9 | 216.8 | 227.8 | 237.3 | 243.1 |
| 65° | 91.2 | 103.7 | 122.7 | 140.9 | 159.2 | 177.4 | 192.7 | 206.5 | 217.5 | 225.5 | 231.4 |
| 67.5° | 83.2 | 95.6 | 113.8 | 131.4 | 150.4 | 167.2 | 183.2 | 196.4 | 206.5 | 214.7 | 219.0 |
| 70° | 74.5 | 87.6 | 104.3 | 121.9 | 140.2 | 156.9 | 172.3 | 184.7 | 194.9 | 201.4 | 205.9 |
| 72.5° | 67.1 | 78.8 | 95.0 | 111.7 | 129.2 | 145.9 | 160.6 | 173.7 | 182.5 | 189.1 | 192.0 |
| 75° | 57.7 | 70.1 | 85.5 | 101.5 | 118.2 | 134.3 | 148.2 | 159.8 | 168.7 | 173.7 | 176.7 |
| 77.5° | 49.6 | 62.1 | 76.0 | 89.8 | 105.8 | 121.2 | 134.3 | 145.3 | 153.3 | 157.7 | 159.2 |
| 80° | 41.6 | 51.9 | 64.2 | 77.3 | 91.2 | 105.1 | 117.6 | 127.1 | 133.6 | 135.1 | 135.8 |
| 82.5° | 32.9 | 40.9 | 51.1 | 62.7 | 74.5 | 85.5 | 96.3 | 103.0 | 108.8 | 109.5 | 109.5 |
| 85° | 22.6 | 27.7 | 35.0 | 43.1 | 51.9 | 61.3 | 69.3 | 74.5 | 76.6 | 78.1 | 78.1 |
| 87.5° | 11.6 | 13.9 | 17.5 | 20.5 | 25.5 | 32.1 | 36.5 | 37.2 | 39.4 | 40.1 | 41.6 |
| 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: P976655

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

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 | 250.4 |
| 2.5° | 252.5 | 252.5 | 253.3 | 253.3 | 253.3 | 254.0 | 254.0 | 254.0 |
| 5° | 268.6 | 270.9 | 273.8 | 276.6 | 277.4 | 279.6 | 279.6 | 279.6 |
| 7.5° | 292.0 | 296.4 | 300.8 | 304.4 | 307.4 | 308.0 | 309.5 | 311.0 |
| 10° | 316.1 | 321.2 | 327.7 | 331.4 | 333.6 | 336.5 | 337.2 | 339.5 |
| 12.5° | 337.2 | 344.6 | 350.4 | 356.2 | 359.9 | 362.8 | 363.5 | 364.2 |
| 15° | 354.7 | 364.2 | 372.3 | 378.1 | 381.8 | 384.7 | 387.6 | 388.3 |
| 17.5° | 370.8 | 380.3 | 388.3 | 395.0 | 400.7 | 404.5 | 405.8 | 407.3 |
| 20° | 383.2 | 393.5 | 402.2 | 409.6 | 415.3 | 419.1 | 421.2 | 421.9 |
| 22.5° | 392.0 | 403.0 | 412.5 | 420.5 | 425.6 | 430.7 | 432.9 | 434.3 |
| 25° | 397.1 | 408.8 | 419.1 | 427.1 | 433.6 | 438.0 | 440.9 | 441.7 |
| 27.5° | 398.6 | 411.0 | 421.2 | 430.0 | 436.6 | 440.9 | 443.8 | 445.3 |
| 30° | 397.1 | 409.6 | 420.5 | 429.2 | 435.8 | 440.2 | 443.1 | 444.6 |
| 32.5° | 392.0 | 404.5 | 415.3 | 424.1 | 430.7 | 435.1 | 437.3 | 438.7 |
| 35° | 384.0 | 396.3 | 407.3 | 415.3 | 421.2 | 426.3 | 428.5 | 430.0 |
| 37.5° | 374.5 | 386.2 | 395.7 | 403.7 | 408.8 | 413.2 | 416.1 | 416.8 |
| 40° | 362.1 | 373.0 | 381.8 | 389.8 | 395.0 | 398.6 | 400.7 | 402.2 |
| 42.5° | 349.0 | 358.5 | 366.5 | 373.0 | 378.8 | 382.5 | 384.7 | 385.5 |
| 45° | 335.7 | 343.9 | 351.1 | 357.0 | 360.6 | 364.2 | 365.7 | 366.5 |
| 47.5° | 321.9 | 330.0 | 335.7 | 340.9 | 343.9 | 346.0 | 347.5 | 348.2 |
| 50° | 308.8 | 315.4 | 320.5 | 324.1 | 326.4 | 328.5 | 330.0 | 330.0 |
| 52.5° | 295.6 | 301.5 | 305.1 | 308.0 | 311.0 | 312.5 | 313.1 | 313.1 |
| 55° | 284.0 | 287.6 | 291.3 | 292.8 | 293.5 | 294.1 | 295.6 | 295.6 |
| 57.5° | 271.5 | 274.5 | 276.6 | 278.1 | 278.9 | 280.3 | 280.3 | 280.3 |
| 60° | 259.1 | 261.4 | 262.0 | 263.5 | 264.3 | 265.0 | 265.8 | 265.8 |
| 62.5° | 246.8 | 248.2 | 249.6 | 249.6 | 250.4 | 251.9 | 251.9 | 252.5 |
| 65° | 233.6 | 235.0 | 235.8 | 236.5 | 237.3 | 238.0 | 238.7 | 238.7 |
| 67.5° | 221.2 | 221.9 | 221.9 | 222.7 | 223.4 | 224.8 | 225.5 | 225.5 |
| 70° | 207.3 | 207.3 | 207.3 | 208.0 | 208.8 | 210.3 | 210.9 | 211.7 |
| 72.5° | 192.7 | 192.7 | 192.7 | 193.4 | 194.2 | 195.7 | 196.4 | 196.4 |
| 75° | 176.7 | 176.7 | 175.9 | 176.7 | 175.9 | 176.7 | 175.9 | 177.4 |
| 77.5° | 157.7 | 155.4 | 154.8 | 154.1 | 152.6 | 153.3 | 152.6 | 153.3 |
| 80° | 134.3 | 132.1 | 129.9 | 129.2 | 129.2 | 128.5 | 127.7 | 129.2 |
| 82.5° | 107.3 | 105.1 | 103.7 | 103.0 | 103.0 | 103.0 | 103.7 | 102.2 |
| 85° | 76.6 | 74.5 | 73.0 | 73.0 | 71.6 | 71.6 | 71.6 | 70.8 |
| 87.5° | 38.0 | 39.4 | 38.7 | 38.7 | 36.5 | 35.0 | 35.7 | 35.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P976655
 CATALOG NUMBER: 22SR-LD2-C-20-UNV-L840-CD1-TB-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 | 10.9 | 12.6 | 11.2 | 13.0 | 13.3 | 13.9 | 15.7 | 14.3 | 16.0 | 16.3 |
| | 3H | 12.8 | 14.4 | 13.1 | 14.7 | 15.1 | 16.5 | 18.1 | 16.9 | 18.5 | 18.8 |
| | 4H | 13.5 | 15.1 | 13.9 | 15.4 | 15.8 | 17.7 | 19.3 | 18.1 | 19.6 | 20.0 |
| | 6H | 14.2 | 15.6 | 14.6 | 16.0 | 16.4 | 18.8 | 20.2 | 19.2 | 20.6 | 21.0 |
| | 8H | 14.4 | 15.8 | 14.8 | 16.2 | 16.6 | 19.2 | 20.6 | 19.7 | 21.0 | 21.4 |
| | 12H | 14.6 | 15.9 | 15.0 | 16.3 | 16.7 | 19.6 | 20.9 | 20.0 | 21.3 | 21.7 |
| 4H | 2H | 12.6 | 14.2 | 13.0 | 14.5 | 14.9 | 14.7 | 16.2 | 15.1 | 16.6 | 16.9 |
| | 3H | 15.0 | 16.3 | 15.4 | 16.7 | 17.1 | 17.6 | 18.9 | 18.0 | 19.3 | 19.7 |
| | 4H | 16.0 | 17.2 | 16.5 | 17.7 | 18.1 | 19.0 | 20.2 | 19.4 | 20.6 | 21.0 |
| | 6H | 16.9 | 17.9 | 17.3 | 18.4 | 18.8 | 20.2 | 21.3 | 20.6 | 21.7 | 22.1 |
| | 8H | 17.2 | 18.2 | 17.6 | 18.6 | 19.1 | 20.7 | 21.7 | 21.2 | 22.2 | 22.6 |
| | 12H | 17.4 | 18.3 | 17.9 | 18.8 | 19.2 | 21.2 | 22.1 | 21.6 | 22.5 | 23.0 |
| 8H | 4H | 17.3 | 18.3 | 17.7 | 18.7 | 19.2 | 19.5 | 20.5 | 20.0 | 20.9 | 21.4 |
| | 6H | 18.5 | 19.3 | 19.0 | 19.8 | 20.3 | 20.9 | 21.8 | 21.4 | 22.3 | 22.7 |
| | 8H | 19.0 | 19.7 | 19.5 | 20.2 | 20.7 | 21.6 | 22.4 | 22.1 | 22.9 | 23.3 |
| | 12H | 19.3 | 20.0 | 19.8 | 20.5 | 21.0 | 22.2 | 22.8 | 22.7 | 23.3 | 23.9 |
| 12H | 4H | 17.5 | 18.4 | 18.0 | 18.9 | 19.3 | 19.6 | 20.5 | 20.1 | 21.0 | 21.4 |
| | 6H | 18.9 | 19.7 | 19.4 | 20.1 | 20.6 | 21.1 | 21.9 | 21.6 | 22.3 | 22.9 |
| | 8H | 19.5 | 20.2 | 20.0 | 20.7 | 21.2 | 21.9 | 22.5 | 22.4 | 23.0 | 23.6 |

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



CCT = 3850K
 CIE x = 0.3868
 CIE y = 0.3794
 Duv = -0.0006

Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2506-457-7

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



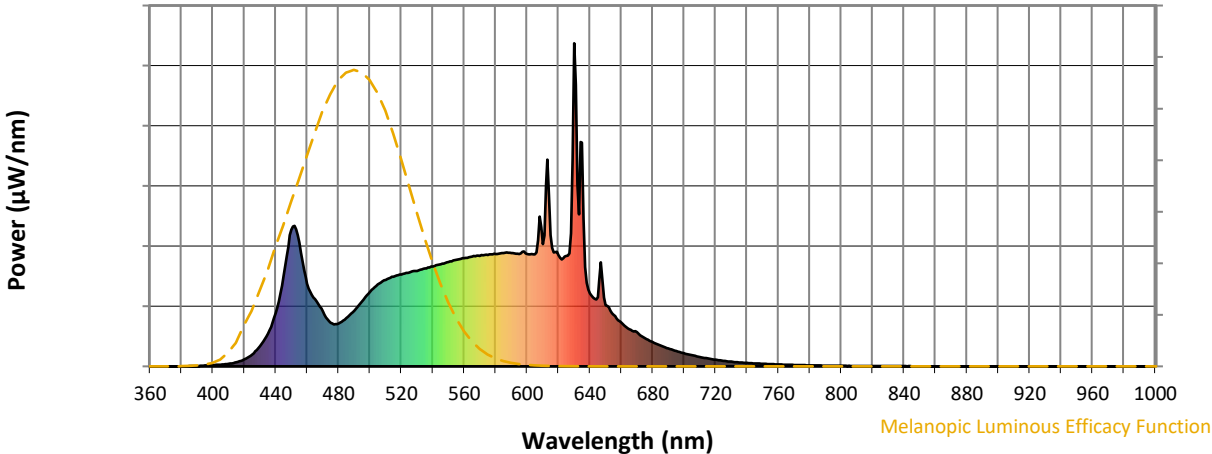
Scotopic Lumens: NR

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

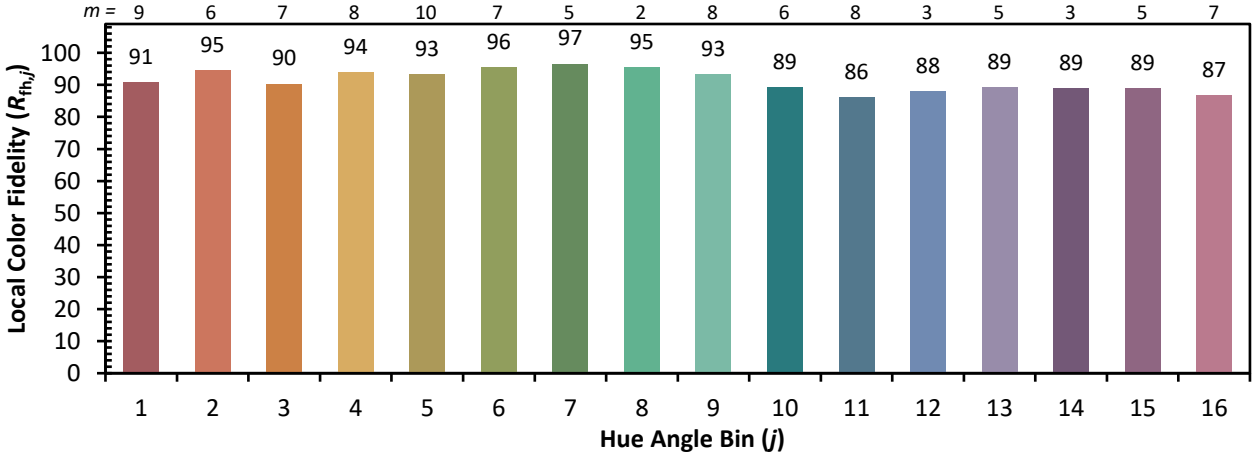


Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|------------|------------|------------|------------|
| 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)