

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: McGRAW-EDISON

Report Number: P438021

Luminaire Tested: **IST-SA1A-735-U-T3**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438021
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-8)
Test Lab: INNOVATION CENTER
Issue Date: 12/10/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: IST-SA1A-735-U-T3
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE
(1) 70 CRI, 3500K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2565 lumens
Efficiency: N/A
Efficacy: 127.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B1 - U0 - G1

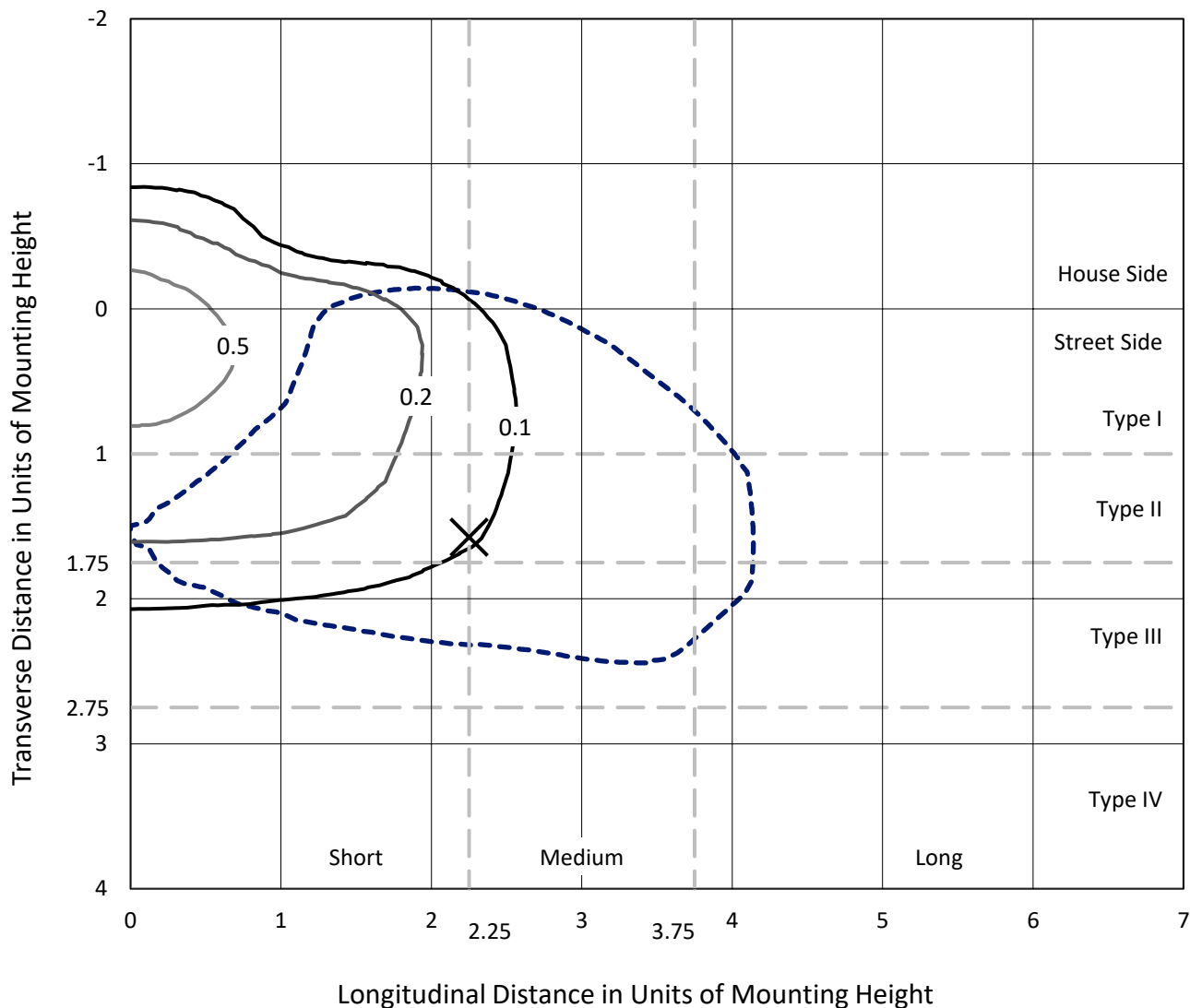
Input Watts (W): 20.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P438021
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Iso-Footcandle Lines of Horizontal Illumination

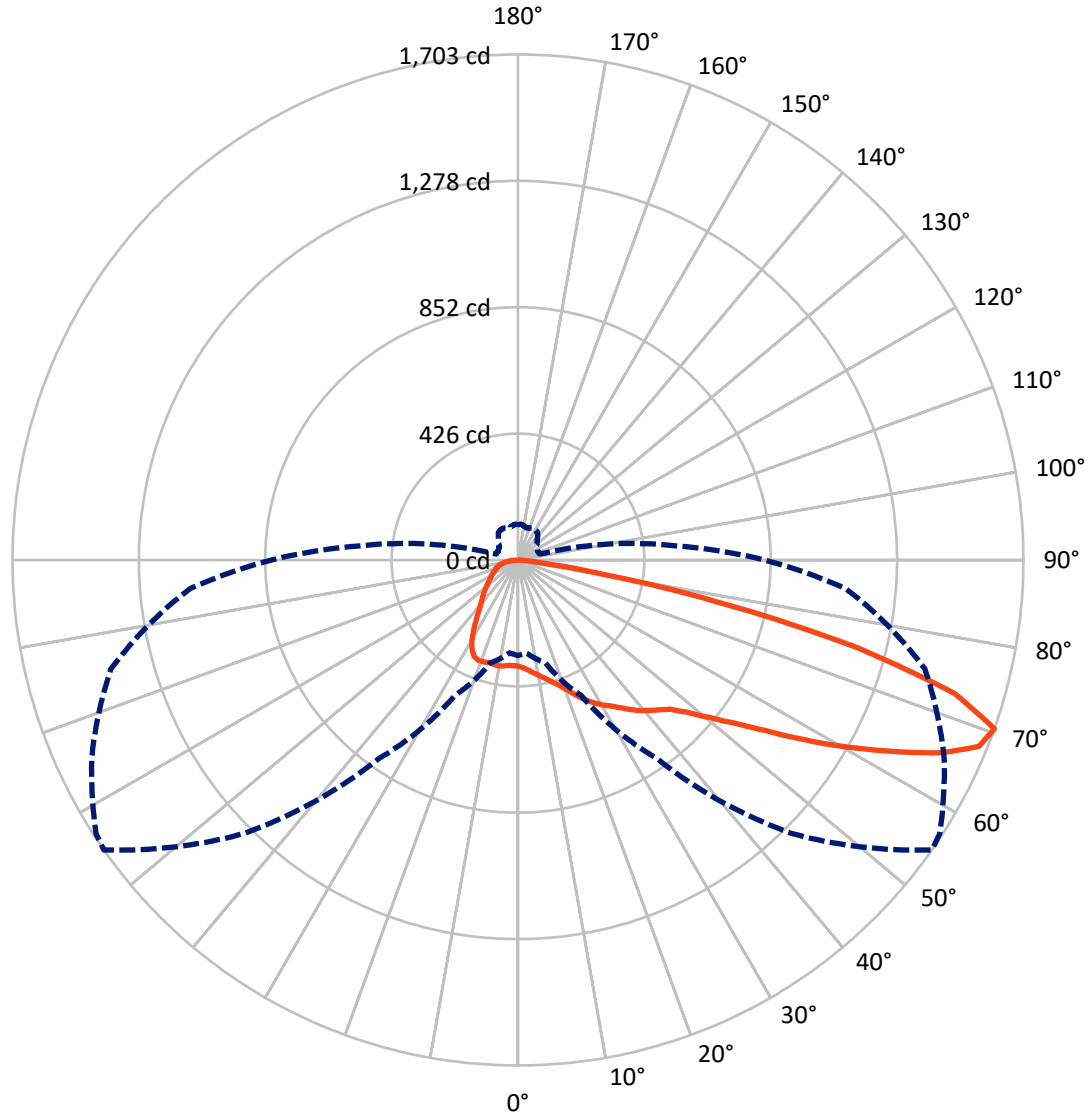
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.6 fc
 Type III - Medium - N/A

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CATALOG NUMBER: IST-SA1A-735-U-T3

Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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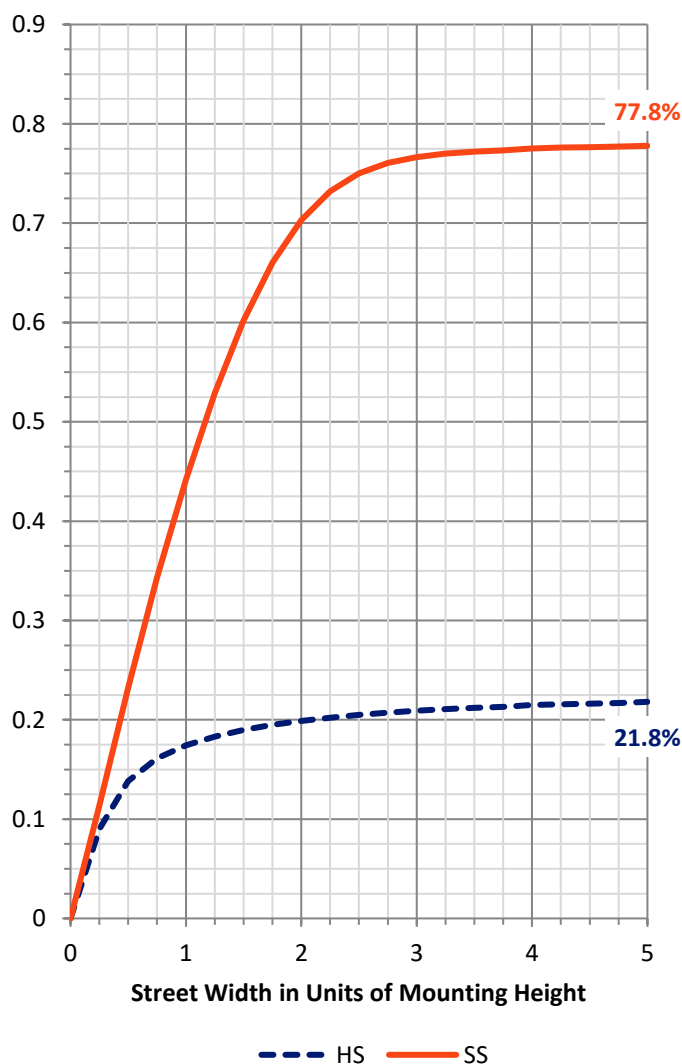
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 567.3 | 0.0 | 567.3 |
| | % Fixture | 22.1 | 0.0 | 22.1 |
| Street Side | Lumens | 1997.7 | 0.0 | 1997.7 |
| | % Fixture | 77.9 | 0.0 | 77.9 |
| Total | Lumens | 2565.0 | 0.0 | 2565.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 35.3 | 1.4 |
| 10°-20° | 112.3 | 4.4 |
| 20°-30° | 195.3 | 7.6 |
| 30°-40° | 275.3 | 10.7 |
| 40°-50° | 364.8 | 14.2 |
| 50°-60° | 531.5 | 20.7 |
| 60°-70° | 663.3 | 25.9 |
| 70°-80° | 353.2 | 13.8 |
| 80°-90° | 34.0 | 1.3 |
| 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° | 2565.0 | 100.0 |
| 0°-180° | 2565.0 | 100.0 |

Coefficient of Utilization

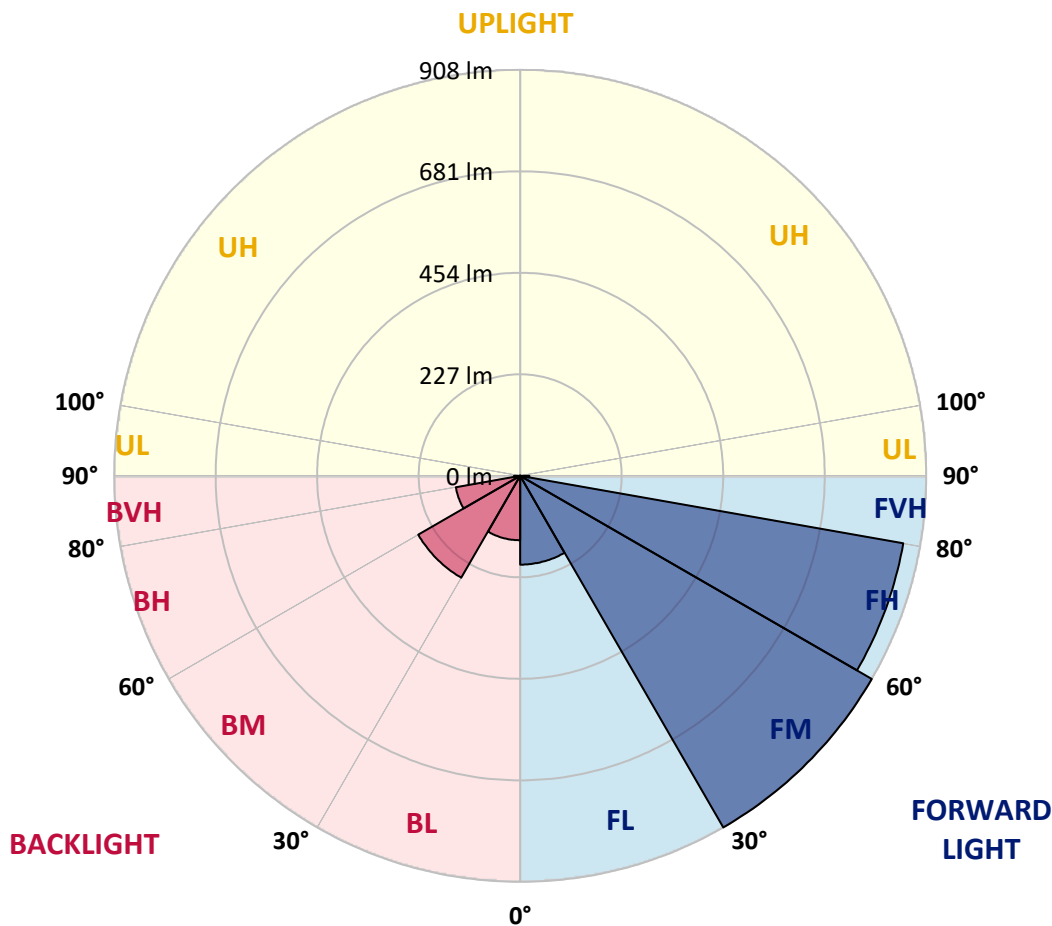


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 198.7 | 7.7 | | | |
| FM (30°-60°) | 908.4 | 35.4 | | | |
| FH (60°-80°) | 870.3 | 33.9 | | | G1/1800 |
| FVH (80°-90°) | 20.3 | 0.8 | | | G1/100 |
| BL (0°-30°) | 144.2 | 5.6 | B1/500 | | |
| BM (30°-60°) | 263.2 | 10.3 | B1/1000 | | |
| BH (60°-80°) | 146.2 | 5.7 | B1/500 | | G1/500 |
| BVH (80°-90°) | 13.7 | 0.5 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G1
 Type III Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 57° | 65° | 75° | 85° |
|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 |
| 2.5° | 370.2 | 369.3 | 369.3 | 368.4 | 367.4 | 366.5 | 364.7 | 362.8 | 362.8 | 361.0 | 361.0 |
| 5° | 379.4 | 377.6 | 378.5 | 377.6 | 377.6 | 375.8 | 373.0 | 373.0 | 372.1 | 367.4 | 363.8 |
| 7.5° | 388.7 | 387.8 | 387.8 | 388.7 | 387.8 | 385.9 | 385.0 | 384.1 | 380.4 | 374.8 | 369.3 |
| 10° | 401.6 | 401.6 | 401.6 | 400.7 | 400.7 | 398.8 | 396.1 | 396.1 | 391.4 | 385.0 | 378.5 |
| 12.5° | 421.0 | 420.1 | 419.1 | 419.1 | 416.4 | 412.7 | 409.9 | 409.9 | 407.1 | 397.0 | 388.7 |
| 15° | 443.1 | 440.4 | 438.5 | 438.5 | 434.8 | 428.4 | 425.6 | 426.5 | 423.8 | 411.8 | 399.8 |
| 17.5° | 465.3 | 465.3 | 463.5 | 458.8 | 454.2 | 449.6 | 443.1 | 445.0 | 442.2 | 430.2 | 414.5 |
| 20° | 485.6 | 483.8 | 483.8 | 481.0 | 474.5 | 469.0 | 465.3 | 464.4 | 462.5 | 449.6 | 431.1 |
| 22.5° | 507.8 | 506.9 | 504.1 | 502.2 | 497.6 | 494.9 | 493.0 | 493.0 | 485.6 | 468.1 | 444.1 |
| 25° | 534.5 | 533.6 | 533.6 | 526.2 | 522.5 | 517.9 | 520.7 | 517.9 | 514.2 | 488.4 | 457.9 |
| 27.5° | 561.3 | 561.3 | 560.4 | 556.7 | 546.6 | 543.8 | 545.6 | 543.8 | 542.9 | 507.8 | 470.8 |
| 30° | 589.9 | 589.0 | 586.2 | 585.3 | 575.2 | 567.8 | 566.9 | 563.2 | 563.2 | 525.3 | 480.1 |
| 32.5° | 613.9 | 613.0 | 614.9 | 611.2 | 604.7 | 594.6 | 588.1 | 588.1 | 581.6 | 542.9 | 491.2 |
| 35° | 636.1 | 638.0 | 638.0 | 636.1 | 630.6 | 620.4 | 613.9 | 615.8 | 606.6 | 558.6 | 505.0 |
| 37.5° | 661.0 | 659.2 | 656.4 | 654.6 | 647.2 | 642.6 | 642.6 | 644.4 | 630.6 | 575.2 | 523.5 |
| 40° | 666.6 | 671.2 | 677.6 | 670.3 | 666.6 | 665.6 | 667.5 | 662.9 | 649.0 | 601.0 | 554.9 |
| 42.5° | 677.6 | 681.3 | 693.3 | 690.6 | 687.8 | 690.6 | 690.6 | 684.1 | 677.6 | 636.1 | 597.3 |
| 45° | 705.3 | 711.8 | 721.0 | 722.0 | 721.0 | 725.7 | 717.3 | 716.4 | 715.5 | 686.9 | 654.6 |
| 47.5° | 735.8 | 743.2 | 764.4 | 761.7 | 771.8 | 781.1 | 766.3 | 765.4 | 768.1 | 754.3 | 727.5 |
| 50° | 771.8 | 779.2 | 806.0 | 816.1 | 843.8 | 860.4 | 833.7 | 821.7 | 841.1 | 840.1 | 819.8 |
| 52.5° | 813.4 | 822.6 | 841.1 | 876.1 | 923.2 | 940.8 | 912.1 | 902.0 | 925.1 | 936.2 | 917.7 |
| 55° | 842.0 | 849.4 | 878.0 | 932.5 | 1009.1 | 1032.2 | 1015.6 | 1006.3 | 1031.2 | 1040.5 | 1021.1 |
| 57.5° | 852.1 | 854.0 | 896.5 | 982.3 | 1088.5 | 1147.6 | 1144.8 | 1138.3 | 1128.2 | 1151.3 | 1145.7 |
| 60° | 834.6 | 844.8 | 899.2 | 1004.5 | 1159.6 | 1271.3 | 1281.4 | 1266.7 | 1253.7 | 1259.3 | 1240.8 |
| 62.5° | 811.5 | 819.8 | 877.1 | 1007.2 | 1207.6 | 1383.0 | 1420.8 | 1404.2 | 1371.9 | 1357.1 | 1313.8 |
| 65° | 730.3 | 730.3 | 786.6 | 950.9 | 1199.3 | 1474.4 | 1567.6 | 1539.0 | 1479.9 | 1427.3 | 1311.0 |
| 67.5° | 558.6 | 555.8 | 610.3 | 781.1 | 1082.0 | 1483.6 | 1675.7 | 1660.9 | 1565.8 | 1454.1 | 1259.3 |
| 70° | 322.2 | 313.9 | 359.1 | 504.1 | 817.1 | 1302.7 | 1703.4 | 1695.0 | 1585.2 | 1419.9 | 1108.8 |
| 72.5° | 111.7 | 119.1 | 148.6 | 214.2 | 449.6 | 938.0 | 1539.0 | 1556.6 | 1492.9 | 1289.7 | 890.9 |
| 75° | 58.2 | 58.2 | 68.3 | 93.2 | 190.2 | 483.8 | 1182.7 | 1237.1 | 1251.0 | 1079.3 | 636.1 |
| 77.5° | 42.5 | 43.4 | 48.9 | 60.0 | 90.5 | 185.6 | 710.0 | 761.7 | 866.0 | 743.2 | 367.4 |
| 80° | 28.6 | 29.5 | 35.1 | 39.7 | 55.4 | 72.0 | 283.4 | 311.1 | 429.3 | 332.4 | 142.2 |
| 82.5° | 21.2 | 22.2 | 22.2 | 23.1 | 30.5 | 33.2 | 74.8 | 92.3 | 147.7 | 98.8 | 50.8 |
| 85° | 4.6 | 4.6 | 9.2 | 9.2 | 9.2 | 9.2 | 16.6 | 18.5 | 27.7 | 29.5 | 16.6 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 0.9 | 1.8 | 1.8 | 1.8 | 2.8 | 2.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 | 358.2 |
| 2.5° | 360.1 | 359.1 | 358.2 | 357.3 | 356.4 | 355.4 | 354.5 | 355.4 | 355.4 | 357.3 | 358.2 |
| 5° | 362.8 | 360.1 | 359.1 | 357.3 | 356.4 | 356.4 | 356.4 | 357.3 | 358.2 | 359.1 | 360.1 |
| 7.5° | 367.4 | 366.5 | 363.8 | 360.1 | 359.1 | 359.1 | 357.3 | 357.3 | 357.3 | 359.1 | 359.1 |
| 10° | 375.8 | 373.0 | 369.3 | 365.6 | 362.8 | 357.3 | 352.7 | 349.0 | 350.8 | 353.6 | 353.6 |
| 12.5° | 385.0 | 380.4 | 375.8 | 369.3 | 361.9 | 352.7 | 348.1 | 349.0 | 349.0 | 351.7 | 352.7 |
| 15° | 397.0 | 393.3 | 383.1 | 372.1 | 359.1 | 351.7 | 349.9 | 348.1 | 348.1 | 349.9 | 351.7 |
| 17.5° | 409.9 | 403.5 | 390.5 | 373.9 | 361.0 | 352.7 | 349.0 | 341.6 | 337.9 | 337.0 | 338.8 |
| 20° | 421.9 | 414.5 | 397.0 | 375.8 | 362.8 | 351.7 | 338.8 | 326.8 | 317.6 | 315.7 | 313.9 |
| 22.5° | 432.1 | 422.8 | 401.6 | 379.4 | 362.8 | 342.5 | 320.4 | 302.8 | 289.9 | 286.2 | 288.0 |
| 25° | 443.1 | 429.3 | 407.1 | 383.1 | 356.4 | 324.1 | 293.6 | 272.4 | 259.4 | 253.9 | 253.9 |
| 27.5° | 452.4 | 438.5 | 412.7 | 380.4 | 339.7 | 299.1 | 264.0 | 242.8 | 232.7 | 227.1 | 226.2 |
| 30° | 460.7 | 445.9 | 423.8 | 372.1 | 315.7 | 265.0 | 234.5 | 219.7 | 213.3 | 206.8 | 207.7 |
| 32.5° | 471.8 | 458.8 | 432.1 | 354.5 | 283.4 | 233.6 | 210.5 | 203.1 | 196.6 | 192.0 | 193.9 |
| 35° | 487.5 | 480.1 | 434.8 | 332.4 | 250.2 | 211.4 | 195.7 | 187.4 | 181.9 | 175.4 | 175.4 |
| 37.5° | 509.6 | 503.2 | 425.6 | 299.1 | 220.7 | 194.8 | 183.7 | 172.6 | 163.4 | 156.0 | 154.2 |
| 40° | 536.4 | 527.2 | 409.9 | 262.2 | 197.6 | 183.7 | 173.6 | 159.7 | 146.8 | 136.6 | 134.8 |
| 42.5° | 578.9 | 552.1 | 386.8 | 224.3 | 181.0 | 174.5 | 160.6 | 143.1 | 130.2 | 122.8 | 120.9 |
| 45° | 624.1 | 580.7 | 353.6 | 192.0 | 168.0 | 163.4 | 147.7 | 130.2 | 120.9 | 115.4 | 114.5 |
| 47.5° | 681.3 | 612.1 | 322.2 | 168.0 | 153.3 | 152.3 | 133.9 | 122.8 | 115.4 | 111.7 | 110.8 |
| 50° | 757.0 | 651.8 | 290.8 | 149.6 | 140.3 | 137.6 | 127.4 | 118.2 | 112.6 | 109.9 | 108.9 |
| 52.5° | 844.8 | 698.0 | 265.9 | 135.7 | 128.3 | 126.5 | 123.7 | 116.3 | 112.6 | 109.9 | 108.9 |
| 55° | 927.8 | 746.0 | 239.1 | 122.8 | 118.2 | 120.0 | 121.9 | 116.3 | 113.6 | 111.7 | 109.9 |
| 57.5° | 1019.2 | 786.6 | 208.6 | 112.6 | 109.9 | 114.5 | 120.0 | 117.2 | 115.4 | 112.6 | 111.7 |
| 60° | 1075.6 | 815.2 | 168.0 | 103.4 | 103.4 | 109.9 | 117.2 | 115.4 | 111.7 | 111.7 | 111.7 |
| 62.5° | 1100.5 | 810.6 | 132.9 | 94.2 | 96.0 | 104.3 | 112.6 | 110.8 | 108.0 | 112.6 | 112.6 |
| 65° | 1068.2 | 758.0 | 108.0 | 85.9 | 88.6 | 96.9 | 108.0 | 108.0 | 108.0 | 115.4 | 115.4 |
| 67.5° | 984.2 | 678.6 | 88.6 | 78.5 | 81.2 | 91.4 | 108.0 | 114.5 | 113.6 | 121.9 | 121.9 |
| 70° | 830.9 | 538.2 | 76.6 | 72.9 | 76.6 | 91.4 | 114.5 | 118.2 | 111.7 | 120.9 | 119.1 |
| 72.5° | 633.3 | 375.8 | 68.3 | 67.4 | 72.0 | 88.6 | 115.4 | 113.6 | 105.2 | 108.0 | 105.2 |
| 75° | 416.4 | 228.0 | 60.0 | 61.9 | 63.7 | 78.5 | 109.9 | 106.2 | 96.0 | 94.2 | 92.3 |
| 77.5° | 229.0 | 114.5 | 52.6 | 55.4 | 55.4 | 66.5 | 99.7 | 91.4 | 83.1 | 78.5 | 76.6 |
| 80° | 91.4 | 58.2 | 46.2 | 48.9 | 45.2 | 53.5 | 74.8 | 71.1 | 63.7 | 60.0 | 58.2 |
| 82.5° | 41.5 | 32.3 | 38.8 | 40.6 | 34.2 | 39.7 | 55.4 | 53.5 | 48.0 | 41.5 | 39.7 |
| 85° | 15.7 | 18.5 | 29.5 | 27.7 | 24.0 | 23.1 | 31.4 | 28.6 | 23.1 | 18.5 | 18.5 |
| 87.5° | 1.8 | 3.7 | 7.4 | 10.2 | 5.5 | 3.7 | 1.8 | 0.9 | 0.9 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

All Brands

Data applicable to all product families using SA light engines

Report Number: SP1-2101-121-7

Luminaire Tested: IFLD-S-SA2A-735-U-T2

Test Date: 03/04/2021

Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-7
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/04/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-735-U-T2**
 Description: STREETWORKS INF FLOOD

PROGRAMMED @ 615mA.

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K): | 3388 | CRI (Ra): | 73.1 | R9: | -34.6 |
| CIE u': | 0.2371 | R1: | 68.9 | R10: | 57.8 |
| CIE v': | 0.5177 | R2: | 81.1 | R11: | 68.6 |
| Duv: | 0.0032 | R3: | 93.1 | R12: | 53.9 |
| CIE x: | 0.4153 | R4: | 71.6 | R13: | 70.9 |
| CIE y: | 0.4030 | R5: | 69.4 | R14: | 96.2 |
| CIE z: | 0.1817 | R6: | 75.0 | | |
| Peak Wavelength (nm): | 590 | R7: | 79.5 | | |
| Dominant Wavelength (nm): | 580 | R8: | 46.4 | | |
| Purity: | 45.7 | | | | |
| Rf: | 76.9 | | | | |
| Rg: | 94.4 | | | | |



Test Conditions

Stabilization Time: 81M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0/30%
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2101-121-7

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | IN0046 | 12/1/2020 | 12/1/2021 |

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CIE 1931 Chromaticity Diagram



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



CCT = 3388K
 CIE x = 0.4153
 CIE y = 0.4030
 Duv = 0.0032

Point lies inside the ANSI 3500K 4-step quadrangle

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Photopic Flux vs. Wavelength



#####

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 4.9 | 620 | 136720 | 35.6 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 8.0 | 625 | 126308 | 27.9 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 12.1 | 630 | 114625 | 20.7 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 18.1 | 635 | 103216 | 15.5 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 25.4 | 640 | 92605 | 11.1 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 33.9 | 645 | 83234 | 8.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 43.0 | 650 | 73263 | 5.4 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 50.1 | 655 | 64627 | 3.7 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 57.9 | 660 | 56614 | 2.4 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 64.0 | 665 | 49537 | 1.6 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.0 | 540 | 107316 | 69.9 | 670 | 42866 | 0.9 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.0 | 545 | 113101 | 75.3 | 675 | 36708 | 0.6 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 0.0 | 550 | 120690 | 82.0 | 680 | 31814 | 0.4 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 0.1 | 555 | 128583 | 87.8 | 685 | 27485 | 0.2 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 0.3 | 560 | 137796 | 93.6 | 690 | 23698 | 0.1 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 0.8 | 565 | 146577 | 97.5 | 695 | 20309 | 0.1 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 1.6 | 570 | 154581 | 100.5 | 700 | 17890 | 0.1 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 2.4 | 575 | 162633 | 101.2 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 2.5 | 580 | 168101 | 99.9 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 2.1 | 585 | 173145 | 96.2 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 1.8 | 590 | 174675 | 90.3 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 1.7 | 595 | 173724 | 82.3 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 1.5 | 600 | 171241 | 73.8 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 1.7 | 605 | 165134 | 64.0 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 2.2 | 610 | 156652 | 53.8 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 3.3 | 615 | 147879 | 44.6 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Scotopic Flux vs. Wavelength



Scotopic Lumens: 12126

S/P: 1.36

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 53.2 | 620 | 136720 | 1.7 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 71.7 | 625 | 126308 | 1.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 91.4 | 630 | 114625 | 0.6 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 110.0 | 635 | 103216 | 0.4 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 125.1 | 640 | 92605 | 0.2 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 135.7 | 645 | 83234 | 0.1 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 140.8 | 650 | 73263 | 0.1 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 139.6 | 655 | 64627 | 0.1 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 135.7 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.1 | 535 | 103269 | 128.7 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.2 | 540 | 107316 | 118.6 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.6 | 545 | 113101 | 108.4 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 2.0 | 550 | 120690 | 98.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 5.9 | 555 | 128583 | 87.9 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 14.3 | 560 | 137796 | 77.0 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 30.5 | 565 | 146577 | 65.8 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 55.5 | 570 | 154581 | 54.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 77.4 | 575 | 162633 | 44.3 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 73.6 | 580 | 168101 | 34.6 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 53.7 | 585 | 173145 | 26.5 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 41.9 | 590 | 174675 | 19.5 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 34.3 | 595 | 173724 | 13.9 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 27.9 | 600 | 171241 | 9.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 27.1 | 605 | 165134 | 6.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 31.3 | 610 | 156652 | 4.2 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 40.0 | 615 | 147879 | 2.7 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Melanopic Flux vs. Wavelength



Melanopic Lumens: 4490.7 M/P: 0.5

| λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 28.8 | 620 | 136720 | 0.1 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 36.6 | 625 | 126308 | 0.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 43.9 | 630 | 114625 | 0.0 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 49.6 | 635 | 103216 | 0.0 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 53.0 | 640 | 92605 | 0.0 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 53.5 | 645 | 83234 | 0.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 51.6 | 650 | 73263 | 0.0 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 47.3 | 655 | 64627 | 0.0 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 42.5 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 37.2 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.1 | 540 | 107316 | 31.4 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.4 | 545 | 113101 | 26.3 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 1.4 | 550 | 120690 | 21.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 3.7 | 555 | 128583 | 17.3 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 8.9 | 560 | 137796 | 13.6 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 18.2 | 565 | 146577 | 10.3 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 33.2 | 570 | 154581 | 7.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 45.6 | 575 | 162633 | 5.4 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 43.8 | 580 | 168101 | 3.8 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 32.2 | 585 | 173145 | 2.6 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 25.6 | 590 | 174675 | 1.7 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 21.2 | 595 | 173724 | 1.1 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 17.4 | 600 | 171241 | 0.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 16.6 | 605 | 165134 | 0.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 18.6 | 610 | 156652 | 0.3 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 22.7 | 615 | 147879 | 0.2 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

Summary

$R_f = 76.9$
 $R_g = 94.4$
 CIE $R_a = 73.1$
 $R_g = -34.6$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 90 | CES76 = 63 |
| CES02 = 62 | CES27 = 88 | CES52 = 89 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 80 | CES78 = 65 |
| CES04 = 70 | CES29 = 67 | CES54 = 84 | CES79 = 87 |
| CES05 = 48 | CES30 = 74 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 71 | CES56 = 75 | CES81 = 75 |
| CES07 = 40 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 39 | CES33 = 74 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 78 | CES59 = 87 | CES84 = 89 |
| CES10 = 75 | CES35 = 89 | CES60 = 93 | CES85 = 80 |
| CES11 = 58 | CES36 = 98 | CES61 = 86 | CES86 = 66 |
| CES12 = 64 | CES37 = 86 | CES62 = 89 | CES87 = 79 |
| CES13 = 43 | CES38 = 82 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 95 | CES64 = 74 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 68 | CES90 = 77 |
| CES16 = 47 | CES41 = 89 | CES66 = 71 | CES91 = 88 |
| CES17 = 50 | CES42 = 88 | CES67 = 69 | CES92 = 60 |
| CES18 = 56 | CES43 = 82 | CES68 = 74 | CES93 = 77 |
| CES19 = 72 | CES44 = 99 | CES69 = 82 | CES94 = 52 |
| CES20 = 65 | CES45 = 87 | CES70 = 67 | CES95 = 69 |
| CES21 = 86 | CES46 = 82 | CES71 = 66 | CES96 = 78 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 85 |
| CES23 = 92 | CES48 = 72 | CES73 = 59 | CES98 = 76 |
| CES24 = 91 | CES49 = 82 | CES74 = 97 | CES99 = 63 |
| CES25 = 72 | CES50 = 88 | CES75 = 66 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)