

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: P438008

Luminaire Tested: **IST-SA1A-735-U-SL2-HSS**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438008
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-15)
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-SL2-HSS
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE
(1) 70 CRI, 3500K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL LIGHT
ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2077 lumens
Efficiency: N/A
Efficacy: 103.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B0 - U0 - G1

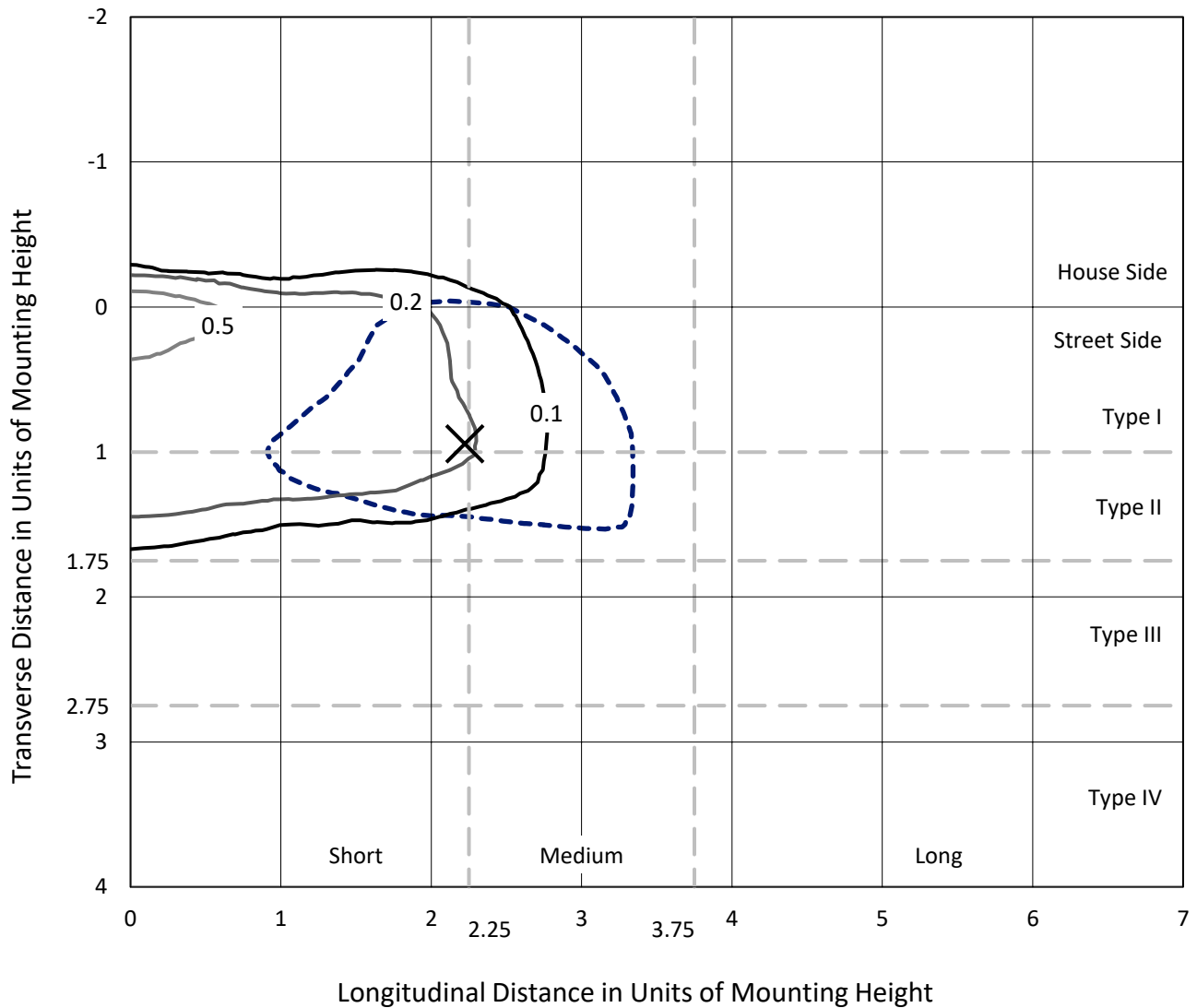
Input Watts (W): 20.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

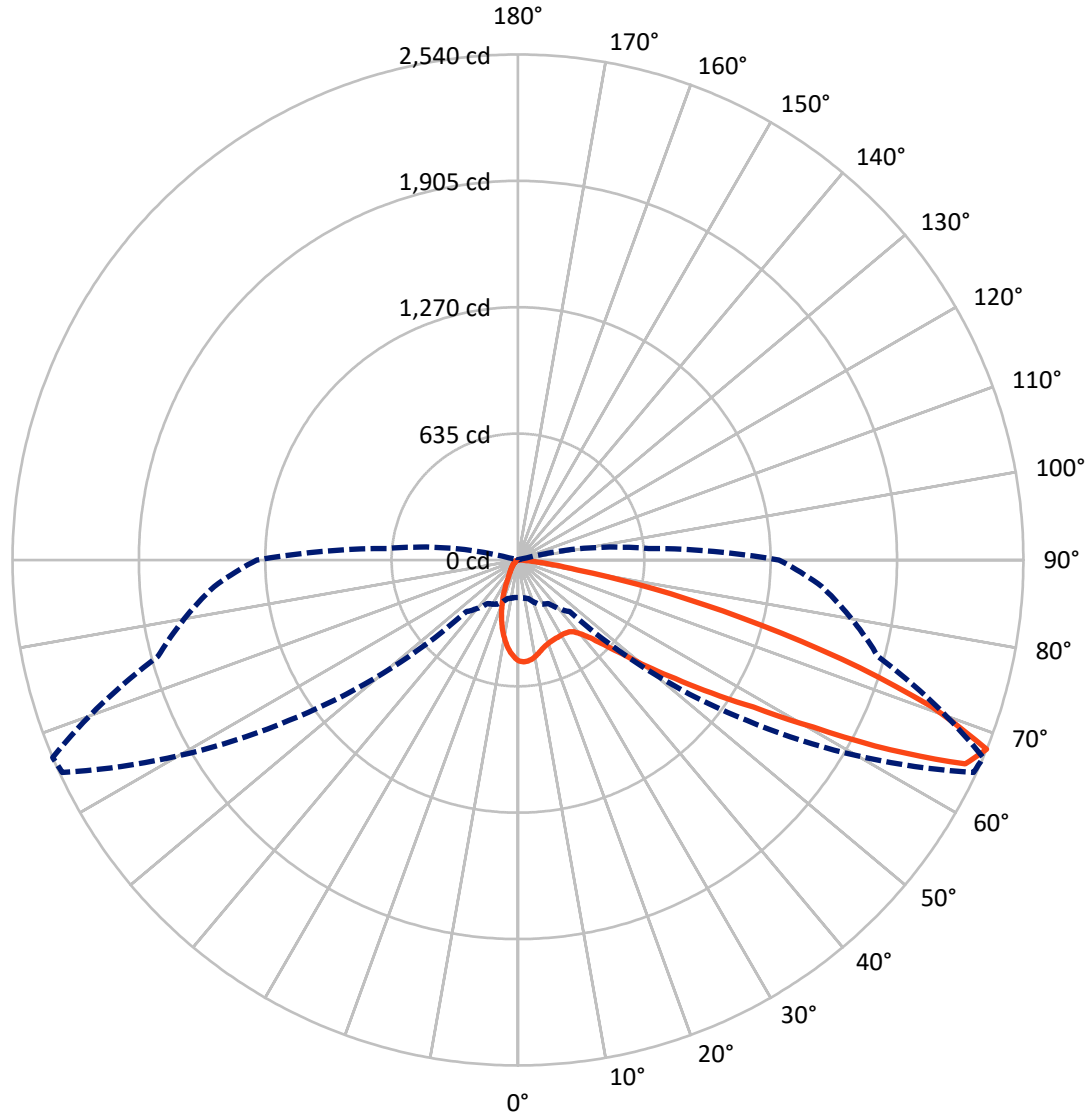
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.8 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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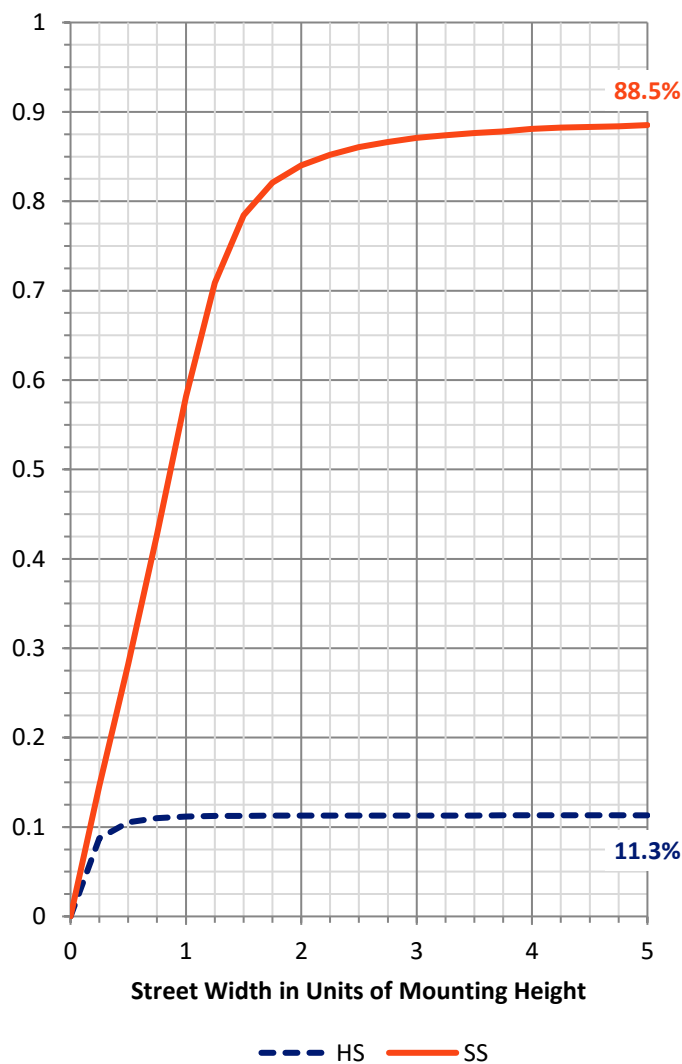
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 237.0 | 0.0 | 237.0 |
| | % Fixture | 11.4 | 0.0 | 11.4 |
| Street Side | Lumens | 1840.0 | 0.0 | 1840.0 |
| | % Fixture | 88.6 | 0.0 | 88.6 |
| Total | Lumens | 2077.0 | 0.0 | 2077.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 41.3 | 2.0 |
| 10°-20° | 89.5 | 4.3 |
| 20°-30° | 128.2 | 6.2 |
| 30°-40° | 188.8 | 9.1 |
| 40°-50° | 311.8 | 15.0 |
| 50°-60° | 501.6 | 24.1 |
| 60°-70° | 546.9 | 26.3 |
| 70°-80° | 248.9 | 12.0 |
| 80°-90° | 20.0 | 1.0 |
| 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° | 2077.0 | 100.0 |
| 0°-180° | 2077.0 | 100.0 |

Coefficient of Utilization



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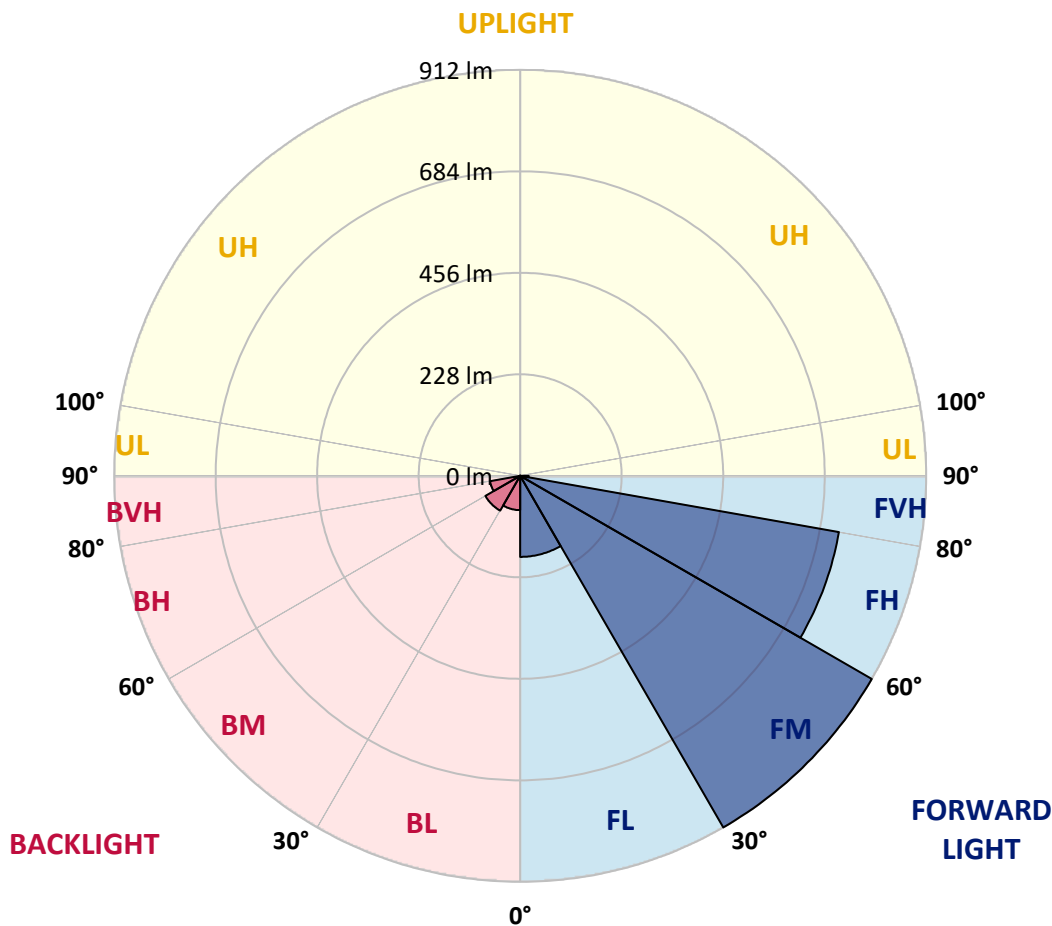
CATALOG NUMBER: IST-SA1A-735-U-SL2-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 182.1 | 8.8 | | | |
| FM (30°-60°) | 911.9 | 43.9 | | | |
| FH (60°-80°) | 727.0 | 35.0 | | | G1/1800 |
| FVH (80°-90°) | 19.0 | 0.9 | | | G1/100 |
| BL (0°-30°) | 77.0 | 3.7 | B0/110 | | |
| BM (30°-60°) | 90.2 | 4.3 | B0/220 | | |
| BH (60°-80°) | 68.8 | 3.3 | B0/110 | | G0/110 |
| BVH (80°-90°) | 1.0 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B0-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 67° | 75° | 85° |
|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 |
| 2.5° | 500.4 | 505.0 | 505.9 | 507.7 | 507.7 | 510.5 | 511.4 | 513.2 | 512.3 | 513.2 | 511.4 |
| 5° | 465.8 | 469.4 | 467.6 | 476.7 | 482.2 | 492.2 | 502.2 | 510.5 | 510.5 | 513.2 | 512.3 |
| 7.5° | 431.1 | 434.8 | 434.8 | 442.1 | 451.2 | 465.8 | 482.2 | 501.3 | 503.2 | 512.3 | 509.5 |
| 10° | 403.8 | 405.6 | 407.4 | 415.7 | 426.6 | 441.2 | 463.1 | 487.7 | 491.3 | 506.8 | 507.7 |
| 12.5° | 381.9 | 384.7 | 387.4 | 395.6 | 405.6 | 420.2 | 441.2 | 469.4 | 475.8 | 497.7 | 505.9 |
| 15° | 371.0 | 371.0 | 373.7 | 381.0 | 390.1 | 405.6 | 424.8 | 457.6 | 463.1 | 492.2 | 505.0 |
| 17.5° | 365.5 | 366.4 | 368.3 | 371.9 | 379.2 | 392.0 | 412.9 | 444.8 | 452.1 | 487.7 | 505.0 |
| 20° | 372.8 | 372.8 | 370.1 | 371.9 | 375.5 | 385.6 | 404.7 | 435.7 | 444.8 | 484.9 | 509.5 |
| 22.5° | 388.3 | 388.3 | 383.7 | 381.0 | 378.3 | 381.9 | 399.2 | 432.1 | 440.3 | 484.9 | 512.3 |
| 25° | 412.0 | 412.0 | 409.3 | 401.1 | 389.2 | 386.5 | 400.2 | 431.1 | 437.5 | 485.8 | 515.9 |
| 27.5° | 440.3 | 441.2 | 438.4 | 429.3 | 411.1 | 395.6 | 402.9 | 429.3 | 436.6 | 484.9 | 517.7 |
| 30° | 477.6 | 481.3 | 477.6 | 464.9 | 443.0 | 413.8 | 409.3 | 428.4 | 435.7 | 483.1 | 518.7 |
| 32.5° | 515.0 | 517.7 | 521.4 | 513.2 | 482.2 | 442.1 | 422.9 | 432.1 | 438.4 | 484.0 | 516.8 |
| 35° | 551.5 | 558.8 | 565.1 | 567.9 | 536.0 | 482.2 | 445.7 | 440.3 | 443.0 | 486.8 | 516.8 |
| 37.5° | 590.7 | 598.0 | 611.6 | 625.3 | 598.9 | 526.9 | 479.5 | 458.5 | 458.5 | 495.9 | 522.3 |
| 40° | 640.8 | 644.4 | 670.9 | 687.3 | 674.5 | 598.9 | 527.8 | 489.5 | 488.6 | 521.4 | 537.8 |
| 42.5° | 689.1 | 699.1 | 733.8 | 758.4 | 750.2 | 683.6 | 586.1 | 544.2 | 535.1 | 562.4 | 566.1 |
| 45° | 759.3 | 774.8 | 802.1 | 838.6 | 846.8 | 778.4 | 676.3 | 614.4 | 605.2 | 623.5 | 613.5 |
| 47.5° | 824.9 | 835.9 | 862.3 | 908.8 | 956.2 | 900.6 | 778.4 | 712.8 | 704.6 | 711.9 | 695.5 |
| 50° | 845.9 | 851.4 | 881.4 | 938.9 | 1051.0 | 1075.6 | 918.8 | 840.4 | 839.5 | 834.0 | 806.7 |
| 52.5° | 809.4 | 810.3 | 845.0 | 915.2 | 1090.2 | 1267.0 | 1117.5 | 1005.4 | 989.9 | 978.1 | 941.6 |
| 55° | 698.2 | 706.4 | 735.6 | 823.1 | 1051.9 | 1377.3 | 1435.6 | 1205.0 | 1179.5 | 1136.7 | 1091.1 |
| 57.5° | 546.0 | 542.4 | 566.1 | 646.3 | 934.3 | 1421.1 | 1749.2 | 1458.4 | 1394.6 | 1266.1 | 1205.0 |
| 60° | 397.4 | 388.3 | 403.8 | 449.4 | 679.1 | 1335.4 | 1930.6 | 1815.7 | 1706.4 | 1405.6 | 1345.4 |
| 62.5° | 295.3 | 295.3 | 311.7 | 332.7 | 416.6 | 1041.9 | 1958.9 | 2225.0 | 2102.0 | 1582.4 | 1494.0 |
| 65° | 236.1 | 235.2 | 248.8 | 280.7 | 297.2 | 646.3 | 1816.7 | 2516.7 | 2470.2 | 1766.5 | 1591.5 |
| 67.5° | 188.7 | 188.7 | 200.5 | 244.3 | 267.1 | 367.3 | 1405.6 | 2525.8 | 2539.5 | 1872.3 | 1532.3 |
| 70° | 133.1 | 137.6 | 152.2 | 204.2 | 258.0 | 280.7 | 852.3 | 2169.4 | 2205.0 | 1840.4 | 1374.6 |
| 72.5° | 74.7 | 78.4 | 104.8 | 151.3 | 247.9 | 269.8 | 476.7 | 1638.9 | 1699.1 | 1542.3 | 1121.2 |
| 75° | 35.5 | 39.2 | 61.1 | 103.9 | 206.9 | 257.0 | 289.9 | 1162.2 | 1154.0 | 1001.8 | 696.4 |
| 77.5° | 15.5 | 17.3 | 27.3 | 60.2 | 146.8 | 239.7 | 212.4 | 726.5 | 693.7 | 470.3 | 292.6 |
| 80° | 5.5 | 6.4 | 11.8 | 34.6 | 82.9 | 196.0 | 176.8 | 335.4 | 303.5 | 130.3 | 76.6 |
| 82.5° | 0.9 | 0.9 | 4.6 | 16.4 | 37.4 | 109.4 | 145.8 | 160.4 | 138.6 | 32.8 | 32.8 |
| 85° | 0.0 | 0.0 | 0.9 | 5.5 | 9.1 | 10.0 | 65.6 | 64.7 | 53.8 | 10.9 | 16.4 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.9 | 0.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 2.7 |
| 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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 CATALOG NUMBER: IST-SA1A-735-U-SL2-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 | 506.8 |
| 2.5° | 506.8 | 505.9 | 496.8 | 488.6 | 477.6 | 468.5 | 460.3 | 452.1 | 448.5 | 449.4 | 451.2 |
| 5° | 507.7 | 502.2 | 483.1 | 462.1 | 440.3 | 418.4 | 397.4 | 384.7 | 374.6 | 371.0 | 374.6 |
| 7.5° | 503.2 | 494.0 | 464.9 | 431.1 | 396.5 | 358.2 | 326.3 | 302.6 | 285.3 | 274.4 | 278.9 |
| 10° | 499.5 | 485.8 | 443.0 | 392.0 | 342.7 | 292.6 | 247.0 | 213.3 | 189.6 | 175.9 | 173.2 |
| 12.5° | 493.1 | 476.7 | 417.5 | 352.8 | 284.4 | 216.0 | 161.3 | 125.8 | 106.6 | 96.6 | 99.4 |
| 15° | 491.3 | 465.8 | 392.0 | 307.2 | 222.4 | 145.8 | 97.5 | 77.5 | 69.3 | 67.5 | 67.5 |
| 17.5° | 489.5 | 458.5 | 364.6 | 262.5 | 159.5 | 91.2 | 67.5 | 62.0 | 60.2 | 59.2 | 60.2 |
| 20° | 487.7 | 448.5 | 337.3 | 214.2 | 107.6 | 65.6 | 58.3 | 55.6 | 53.8 | 53.8 | 52.9 |
| 22.5° | 489.5 | 442.1 | 311.7 | 168.6 | 73.8 | 55.6 | 51.0 | 49.2 | 47.4 | 46.5 | 46.5 |
| 25° | 487.7 | 433.9 | 280.7 | 124.0 | 57.4 | 49.2 | 45.6 | 41.9 | 40.1 | 39.2 | 38.3 |
| 27.5° | 484.9 | 423.9 | 251.6 | 89.3 | 50.1 | 43.8 | 39.2 | 35.5 | 32.8 | 31.9 | 31.9 |
| 30° | 482.2 | 411.1 | 217.9 | 65.6 | 45.6 | 39.2 | 33.7 | 30.1 | 27.3 | 25.5 | 25.5 |
| 32.5° | 474.9 | 399.2 | 185.0 | 52.9 | 41.0 | 34.6 | 29.2 | 24.6 | 22.8 | 21.9 | 21.9 |
| 35° | 470.3 | 385.6 | 150.4 | 45.6 | 37.4 | 30.1 | 24.6 | 21.0 | 19.1 | 18.2 | 18.2 |
| 37.5° | 469.4 | 371.0 | 119.4 | 41.0 | 33.7 | 26.4 | 21.0 | 18.2 | 16.4 | 15.5 | 15.5 |
| 40° | 473.1 | 363.7 | 92.1 | 37.4 | 29.2 | 22.8 | 18.2 | 15.5 | 13.7 | 12.8 | 12.8 |
| 42.5° | 487.7 | 362.8 | 70.2 | 33.7 | 26.4 | 20.1 | 16.4 | 12.8 | 10.9 | 10.0 | 10.0 |
| 45° | 520.5 | 368.3 | 55.6 | 31.0 | 22.8 | 17.3 | 13.7 | 10.9 | 9.1 | 8.2 | 8.2 |
| 47.5° | 574.3 | 391.0 | 46.5 | 28.3 | 19.1 | 14.6 | 10.9 | 9.1 | 6.4 | 6.4 | 6.4 |
| 50° | 661.8 | 439.4 | 41.0 | 24.6 | 16.4 | 11.8 | 9.1 | 6.4 | 4.6 | 4.6 | 4.6 |
| 52.5° | 791.2 | 513.2 | 37.4 | 21.9 | 13.7 | 10.0 | 7.3 | 4.6 | 3.6 | 3.6 | 3.6 |
| 55° | 925.2 | 605.2 | 34.6 | 18.2 | 11.8 | 8.2 | 5.5 | 3.6 | 2.7 | 2.7 | 1.8 |
| 57.5° | 1047.3 | 680.9 | 31.0 | 15.5 | 9.1 | 6.4 | 3.6 | 2.7 | 1.8 | 1.8 | 1.8 |
| 60° | 1192.3 | 756.6 | 26.4 | 11.8 | 7.3 | 4.6 | 2.7 | 1.8 | 0.9 | 0.9 | 0.9 |
| 62.5° | 1332.6 | 799.4 | 21.9 | 9.1 | 5.5 | 3.6 | 1.8 | 0.9 | 0.9 | 0.9 | 0.9 |
| 65° | 1393.7 | 779.3 | 17.3 | 7.3 | 4.6 | 2.7 | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 |
| 67.5° | 1311.7 | 659.0 | 13.7 | 5.5 | 3.6 | 1.8 | 0.9 | 0.9 | 0.0 | 0.0 | 0.0 |
| 70° | 1129.4 | 533.2 | 10.9 | 4.6 | 2.7 | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 | 0.0 |
| 72.5° | 886.9 | 392.9 | 9.1 | 3.6 | 1.8 | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 | 0.0 |
| 75° | 539.6 | 197.8 | 8.2 | 2.7 | 1.8 | 1.8 | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 |
| 77.5° | 183.2 | 62.0 | 5.5 | 2.7 | 1.8 | 1.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| 80° | 53.8 | 20.1 | 4.6 | 1.8 | 1.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| 82.5° | 28.3 | 9.1 | 2.7 | 1.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| 85° | 15.5 | 4.6 | 1.8 | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 | 0.9 | 0.9 | 0.9 |
| 87.5° | 2.7 | 1.8 | 1.8 | 0.9 | 0.9 | 0.9 | 0.0 | 0.0 | 0.0 | 0.9 | 0.9 |
| 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
 CIE u': 0.2371
 CIE v': 0.5177
 Duv: 0.0032
 CIE x: 0.4153
 CIE y: 0.4030
 CIE z: 0.1817
 Peak Wavelength (nm): 590
 Dominant Wavelength (nm): 580
 Purity: 45.7

 Rf: 76.9
 Rg: 94.4

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 73.1 | | |
| R1: | 68.9 | R9: | -34.6 |
| R2: | 81.1 | R10: | 57.8 |
| R3: | 93.1 | R11: | 68.6 |
| R4: | 71.6 | R12: | 53.9 |
| R5: | 69.4 | R13: | 70.9 |
| R6: | 75.0 | R14: | 96.2 |
| R7: | 79.5 | | |
| R8: | 46.4 | | |

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



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)