

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: P438028

Luminaire Tested: **IST-SA1A-740-U-SL2**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438028
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-14)
Test Lab: INNOVATION CENTER
Issue Date: 12/10/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: IST-SA1A-740-U-SL2
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE
(1) 70 CRI, 4000K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL LIGHT
ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2730 lumens
Efficiency: N/A
Efficacy: 135.8 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

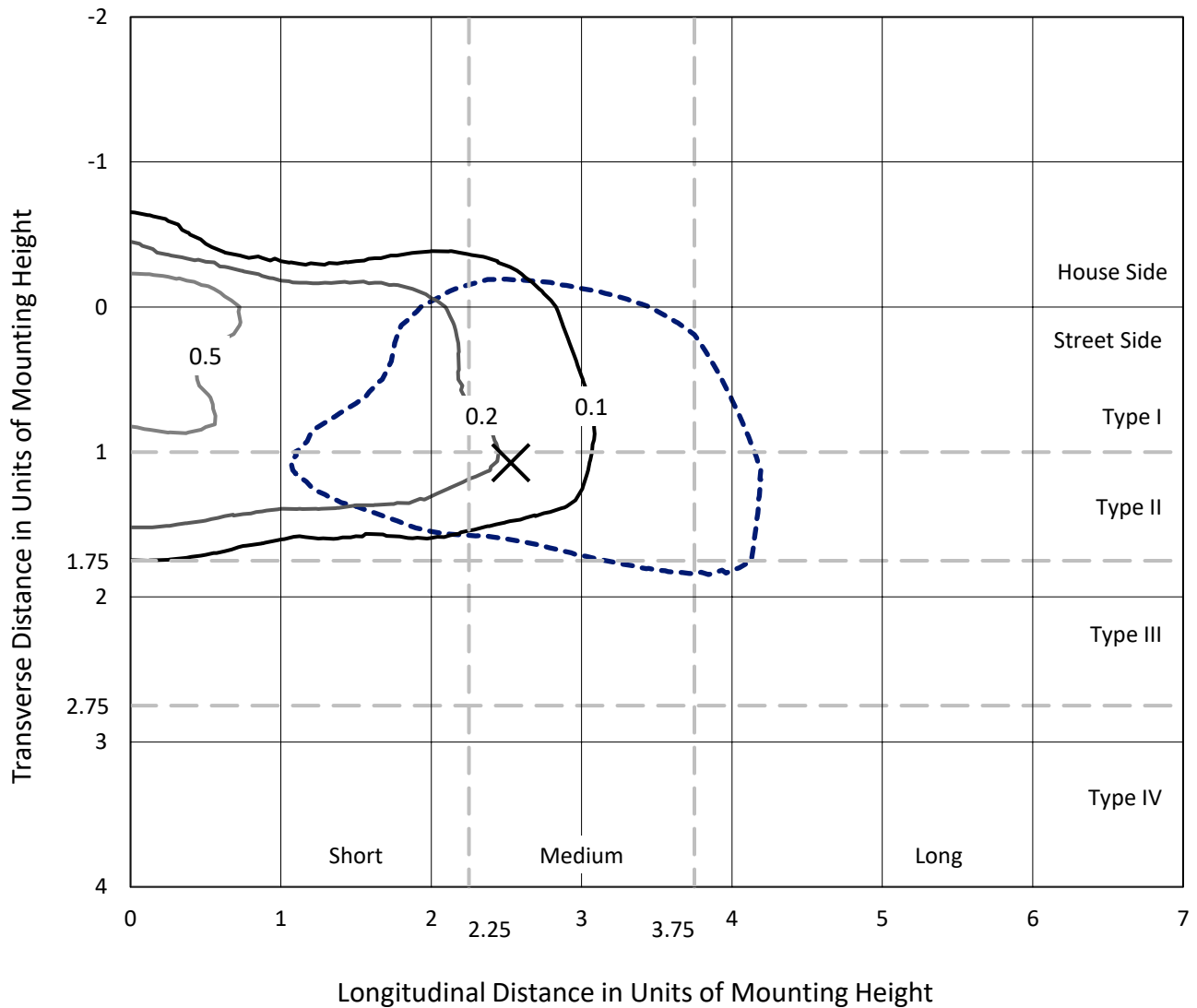
Input Watts (W): 20.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P438028
 CATALOG NUMBER: IST-SA1A-740-U-SL2

Iso-Footcandle Lines of Horizontal Illumination

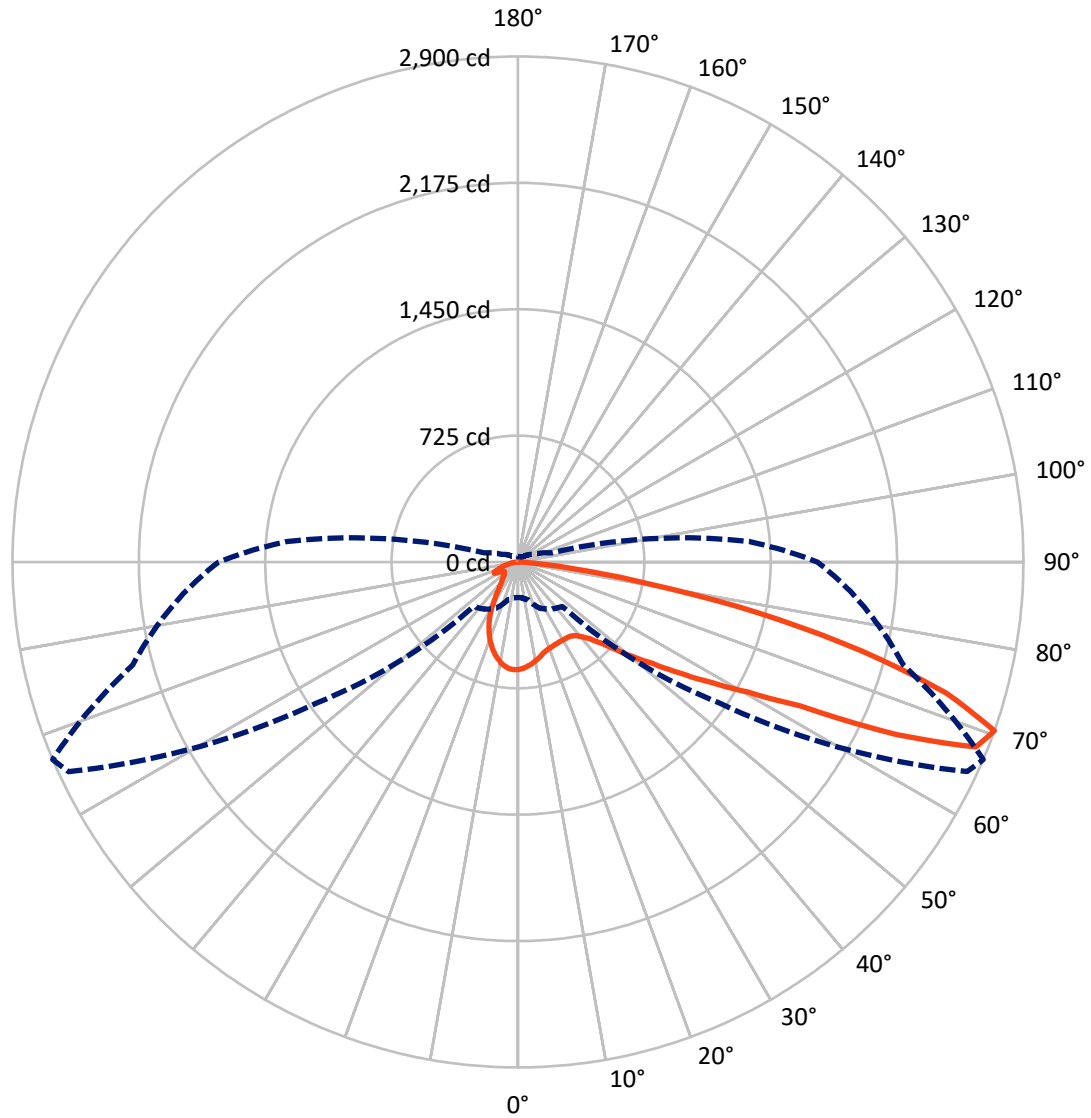
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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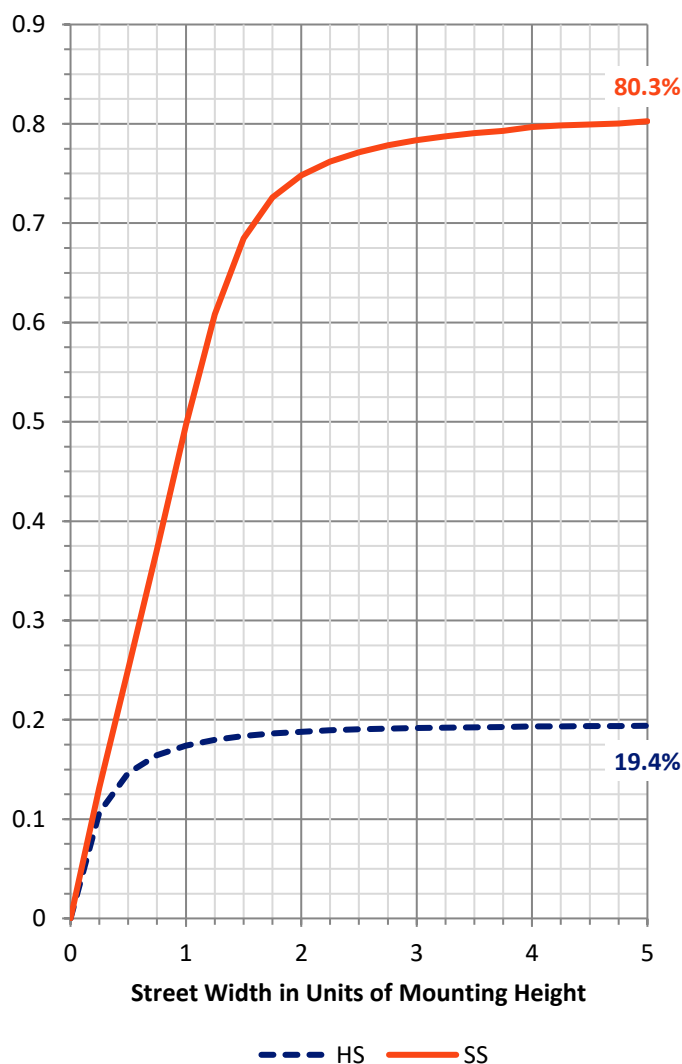
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 534.7 | 0.0 | 534.7 |
| | % Fixture | 19.6 | 0.0 | 19.6 |
| Street Side | Lumens | 2195.3 | 0.0 | 2195.3 |
| | % Fixture | 80.4 | 0.0 | 80.4 |
| Total | Lumens | 2730.0 | 0.0 | 2730.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 54.1 | 2.0 |
| 10°-20° | 131.0 | 4.8 |
| 20°-30° | 180.6 | 6.6 |
| 30°-40° | 243.9 | 8.9 |
| 40°-50° | 361.9 | 13.3 |
| 50°-60° | 557.0 | 20.4 |
| 60°-70° | 688.7 | 25.2 |
| 70°-80° | 461.3 | 16.9 |
| 80°-90° | 51.4 | 1.9 |
| 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°-90° | 2730.0 | 100.0 |
| 0°-180° | 2730.0 | 100.0 |

Coefficient of Utilization

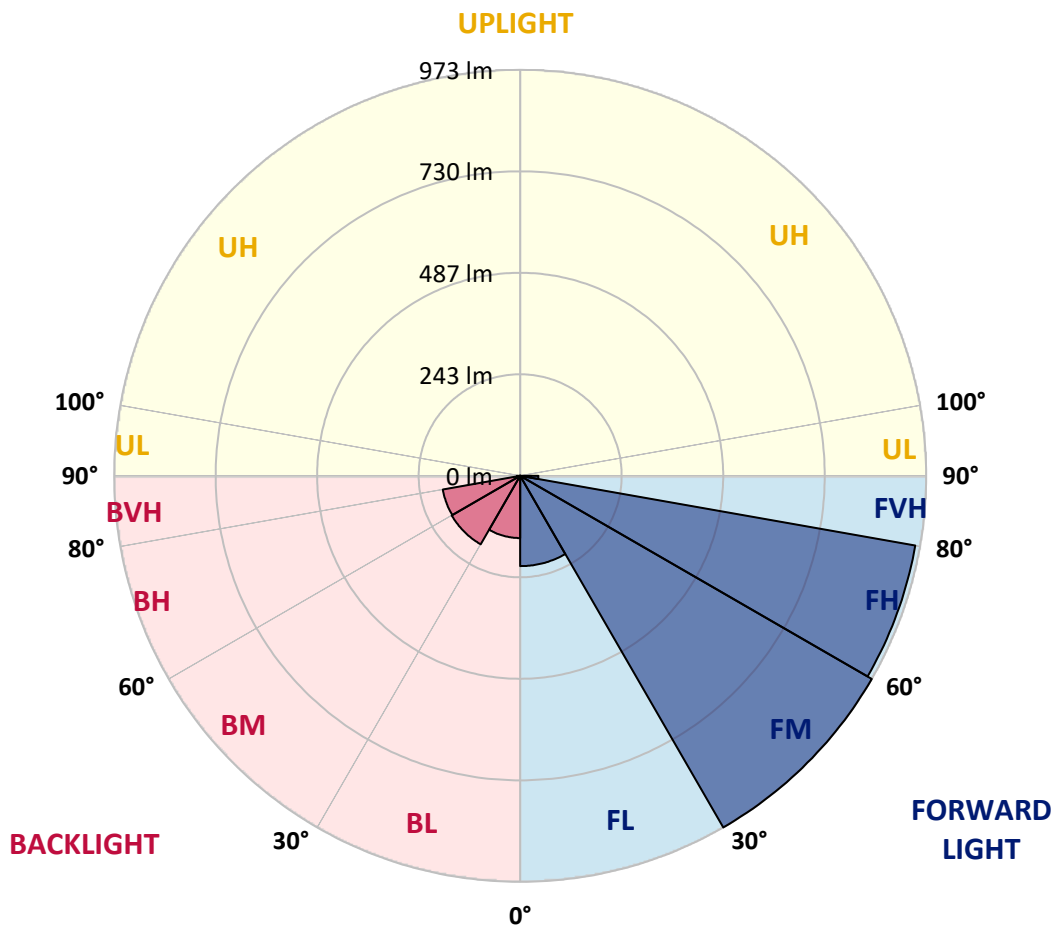


REPORT NUMBER: P438028
 CATALOG NUMBER: IST-SA1A-740-U-SL2

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 216.5 | 7.9 | | | |
| FM (30°-60°) | 973.3 | 35.7 | | | |
| FH (60°-80°) | 961.7 | 35.2 | | | G1/1800 |
| FVH (80°-90°) | 43.8 | 1.6 | | | G1/100 |
| BL (0°-30°) | 149.2 | 5.5 | B1/500 | | |
| BM (30°-60°) | 189.5 | 6.9 | B0/220 | | |
| BH (60°-80°) | 188.3 | 6.9 | B1/500 | | G1/500 |
| BVH (80°-90°) | 7.6 | 0.3 | | | G0/10 |
| 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° | 65° | 67° | 75° | 85° |
|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 |
| 2.5° | 582.9 | 586.8 | 587.8 | 590.8 | 594.7 | 598.7 | 603.6 | 609.5 | 610.5 | 613.5 | 619.4 |
| 5° | 543.4 | 545.3 | 547.3 | 553.2 | 560.1 | 573.0 | 585.8 | 597.7 | 599.7 | 609.5 | 620.4 |
| 7.5° | 506.8 | 511.7 | 512.7 | 517.7 | 528.5 | 544.3 | 562.1 | 582.9 | 588.8 | 602.6 | 619.4 |
| 10° | 480.1 | 483.1 | 485.1 | 494.0 | 502.8 | 520.6 | 542.4 | 568.0 | 574.0 | 594.7 | 618.4 |
| 12.5° | 458.4 | 463.3 | 466.3 | 472.2 | 486.1 | 501.9 | 523.6 | 551.3 | 559.2 | 584.8 | 614.5 |
| 15° | 446.5 | 450.5 | 451.5 | 458.4 | 469.3 | 485.1 | 505.8 | 537.4 | 543.4 | 575.0 | 614.5 |
| 17.5° | 443.6 | 444.6 | 445.5 | 449.5 | 458.4 | 471.2 | 493.0 | 525.6 | 532.5 | 571.0 | 614.5 |
| 20° | 449.5 | 449.5 | 449.5 | 447.5 | 454.4 | 464.3 | 486.1 | 515.7 | 525.6 | 567.1 | 617.4 |
| 22.5° | 463.3 | 464.3 | 461.4 | 456.4 | 453.5 | 460.4 | 479.1 | 512.7 | 521.6 | 566.1 | 623.4 |
| 25° | 483.1 | 484.1 | 482.1 | 475.2 | 461.4 | 460.4 | 476.2 | 509.8 | 517.7 | 565.1 | 622.4 |
| 27.5° | 509.8 | 515.7 | 509.8 | 501.9 | 484.1 | 468.3 | 479.1 | 507.8 | 516.7 | 565.1 | 624.4 |
| 30° | 547.3 | 551.3 | 548.3 | 535.4 | 512.7 | 485.1 | 483.1 | 509.8 | 516.7 | 564.1 | 623.4 |
| 32.5° | 584.8 | 585.8 | 588.8 | 579.9 | 552.2 | 509.8 | 494.0 | 511.7 | 517.7 | 563.1 | 620.4 |
| 35° | 613.5 | 619.4 | 632.3 | 633.3 | 600.6 | 545.3 | 516.7 | 519.6 | 521.6 | 566.1 | 617.4 |
| 37.5° | 650.0 | 652.0 | 672.8 | 688.6 | 659.9 | 594.7 | 548.3 | 534.5 | 535.4 | 576.0 | 622.4 |
| 40° | 683.6 | 691.5 | 720.2 | 739.9 | 730.1 | 660.9 | 591.8 | 561.1 | 563.1 | 593.7 | 634.2 |
| 42.5° | 734.0 | 739.9 | 769.6 | 797.2 | 800.2 | 736.0 | 652.0 | 606.6 | 601.6 | 628.3 | 659.9 |
| 45° | 778.5 | 785.4 | 822.9 | 863.4 | 877.3 | 821.0 | 727.1 | 668.8 | 660.9 | 686.6 | 707.3 |
| 47.5° | 840.7 | 852.6 | 882.2 | 928.6 | 975.1 | 924.7 | 822.9 | 753.8 | 746.9 | 764.6 | 770.6 |
| 50° | 900.0 | 906.9 | 931.6 | 987.9 | 1069.9 | 1055.1 | 940.5 | 864.4 | 853.6 | 856.5 | 870.3 |
| 52.5° | 908.9 | 911.8 | 937.5 | 996.8 | 1150.9 | 1214.1 | 1084.7 | 988.9 | 969.1 | 972.1 | 988.9 |
| 55° | 841.7 | 853.6 | 872.3 | 955.3 | 1156.8 | 1391.0 | 1287.2 | 1152.9 | 1122.3 | 1111.4 | 1125.2 |
| 57.5° | 702.4 | 716.2 | 742.9 | 828.9 | 1088.7 | 1486.8 | 1619.2 | 1348.5 | 1301.1 | 1250.7 | 1267.5 |
| 60° | 517.7 | 532.5 | 549.3 | 633.3 | 915.8 | 1501.6 | 1949.1 | 1585.6 | 1515.5 | 1390.0 | 1398.9 |
| 62.5° | 397.1 | 397.1 | 412.0 | 446.5 | 612.5 | 1393.9 | 2142.8 | 1986.7 | 1814.8 | 1559.9 | 1549.0 |
| 65° | 321.1 | 325.0 | 339.8 | 372.4 | 387.3 | 989.9 | 2219.8 | 2569.6 | 2386.8 | 1763.4 | 1707.1 |
| 67.5° | 265.7 | 266.7 | 283.5 | 334.9 | 338.9 | 544.3 | 2013.4 | 2875.8 | 2832.3 | 2018.3 | 1875.1 |
| 70° | 203.5 | 204.5 | 224.3 | 291.4 | 330.0 | 360.6 | 1408.8 | 2844.2 | 2899.5 | 2289.0 | 1911.6 |
| 72.5° | 135.3 | 141.3 | 165.0 | 231.2 | 329.0 | 339.8 | 764.6 | 2487.6 | 2567.6 | 2394.7 | 1789.1 |
| 75° | 84.0 | 85.0 | 109.7 | 160.0 | 302.3 | 338.9 | 449.5 | 1938.3 | 2037.1 | 1986.7 | 1552.0 |
| 77.5° | 51.4 | 53.3 | 65.2 | 104.7 | 234.1 | 339.8 | 320.1 | 1333.7 | 1415.7 | 1304.0 | 914.8 |
| 80° | 31.6 | 31.6 | 37.5 | 63.2 | 152.1 | 304.3 | 275.6 | 775.5 | 767.6 | 482.1 | 259.8 |
| 82.5° | 11.9 | 12.8 | 19.8 | 34.6 | 77.1 | 236.1 | 242.0 | 350.7 | 323.0 | 142.3 | 92.9 |
| 85° | 2.0 | 2.0 | 4.0 | 10.9 | 20.7 | 97.8 | 134.4 | 123.5 | 103.7 | 43.5 | 38.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 2.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 |
| 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-740-U-SL2

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 | 616.5 |
| 2.5° | 619.4 | 621.4 | 620.4 | 617.4 | 614.5 | 612.5 | 607.6 | 604.6 | 605.6 | 605.6 | 606.6 |
| 5° | 621.4 | 624.4 | 619.4 | 613.5 | 602.6 | 590.8 | 579.9 | 574.0 | 566.1 | 569.0 | 567.1 |
| 7.5° | 624.4 | 626.3 | 617.4 | 599.7 | 580.9 | 561.1 | 542.4 | 525.6 | 512.7 | 506.8 | 510.7 |
| 10° | 622.4 | 625.3 | 608.6 | 581.9 | 553.2 | 521.6 | 493.0 | 465.3 | 447.5 | 435.7 | 438.6 |
| 12.5° | 621.4 | 618.4 | 595.7 | 556.2 | 516.7 | 473.2 | 429.7 | 396.2 | 366.5 | 354.7 | 356.6 |
| 15° | 617.4 | 615.5 | 579.9 | 529.5 | 475.2 | 413.9 | 356.6 | 313.2 | 277.6 | 265.7 | 269.7 |
| 17.5° | 619.4 | 613.5 | 561.1 | 496.9 | 422.8 | 347.7 | 277.6 | 235.1 | 217.3 | 213.4 | 212.4 |
| 20° | 617.4 | 606.6 | 542.4 | 461.4 | 367.5 | 269.7 | 206.5 | 183.8 | 183.8 | 189.7 | 190.7 |
| 22.5° | 619.4 | 600.6 | 521.6 | 420.8 | 304.3 | 202.5 | 161.0 | 155.1 | 164.0 | 176.8 | 176.8 |
| 25° | 619.4 | 593.7 | 498.9 | 375.4 | 238.1 | 154.1 | 137.3 | 137.3 | 149.2 | 161.0 | 160.0 |
| 27.5° | 615.5 | 579.9 | 473.2 | 327.0 | 176.8 | 127.4 | 120.5 | 123.5 | 131.4 | 141.3 | 140.3 |
| 30° | 605.6 | 566.1 | 441.6 | 270.7 | 134.4 | 112.6 | 111.6 | 112.6 | 116.6 | 122.5 | 121.5 |
| 32.5° | 596.7 | 550.3 | 411.0 | 210.4 | 113.6 | 104.7 | 103.7 | 104.7 | 105.7 | 107.7 | 107.7 |
| 35° | 590.8 | 536.4 | 374.4 | 162.0 | 102.7 | 99.8 | 97.8 | 97.8 | 95.8 | 96.8 | 96.8 |
| 37.5° | 583.9 | 523.6 | 336.9 | 126.5 | 96.8 | 94.8 | 92.9 | 89.9 | 89.9 | 87.9 | 87.9 |
| 40° | 583.9 | 513.7 | 298.3 | 106.7 | 92.9 | 91.9 | 87.9 | 84.0 | 82.0 | 82.0 | 82.0 |
| 42.5° | 599.7 | 513.7 | 262.8 | 97.8 | 88.9 | 87.9 | 83.0 | 79.0 | 77.1 | 77.1 | 77.1 |
| 45° | 626.3 | 519.6 | 226.2 | 91.9 | 85.9 | 84.0 | 78.0 | 74.1 | 72.1 | 72.1 | 71.1 |
| 47.5° | 672.8 | 544.3 | 193.6 | 88.9 | 83.0 | 80.0 | 73.1 | 69.2 | 67.2 | 67.2 | 67.2 |
| 50° | 750.8 | 593.7 | 167.0 | 85.9 | 80.0 | 75.1 | 69.2 | 65.2 | 63.2 | 63.2 | 62.2 |
| 52.5° | 858.5 | 667.8 | 154.1 | 84.0 | 76.1 | 70.1 | 65.2 | 61.3 | 59.3 | 58.3 | 58.3 |
| 55° | 987.9 | 779.5 | 152.1 | 83.0 | 72.1 | 66.2 | 61.3 | 57.3 | 55.3 | 54.3 | 54.3 |
| 57.5° | 1129.2 | 902.0 | 166.0 | 81.0 | 68.2 | 61.3 | 57.3 | 53.3 | 51.4 | 50.4 | 50.4 |
| 60° | 1265.5 | 1036.3 | 210.4 | 79.0 | 65.2 | 57.3 | 52.4 | 49.4 | 47.4 | 46.4 | 46.4 |
| 62.5° | 1423.6 | 1177.6 | 308.2 | 80.0 | 63.2 | 53.3 | 48.4 | 45.4 | 44.5 | 43.5 | 43.5 |
| 65° | 1597.5 | 1339.6 | 394.2 | 87.9 | 64.2 | 49.4 | 44.5 | 42.5 | 40.5 | 39.5 | 39.5 |
| 67.5° | 1751.6 | 1444.3 | 329.0 | 101.8 | 70.1 | 46.4 | 39.5 | 38.5 | 36.6 | 35.6 | 36.6 |
| 70° | 1717.0 | 1333.7 | 202.5 | 102.7 | 71.1 | 44.5 | 35.6 | 33.6 | 31.6 | 31.6 | 31.6 |
| 72.5° | 1565.8 | 1176.6 | 141.3 | 88.9 | 63.2 | 39.5 | 30.6 | 28.6 | 27.7 | 27.7 | 27.7 |
| 75° | 1317.9 | 970.1 | 112.6 | 72.1 | 49.4 | 32.6 | 25.7 | 24.7 | 23.7 | 22.7 | 22.7 |
| 77.5° | 721.2 | 527.5 | 84.0 | 55.3 | 36.6 | 24.7 | 21.7 | 19.8 | 18.8 | 18.8 | 18.8 |
| 80° | 211.4 | 180.8 | 52.4 | 39.5 | 23.7 | 17.8 | 16.8 | 14.8 | 13.8 | 13.8 | 13.8 |
| 82.5° | 88.9 | 75.1 | 31.6 | 21.7 | 15.8 | 11.9 | 10.9 | 9.9 | 8.9 | 7.9 | 8.9 |
| 85° | 34.6 | 36.6 | 19.8 | 12.8 | 8.9 | 5.9 | 4.9 | 4.0 | 4.0 | 3.0 | 4.0 |
| 87.5° | 4.0 | 4.9 | 4.0 | 3.0 | 2.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Cooper Lighting Solutions Photometric Lab
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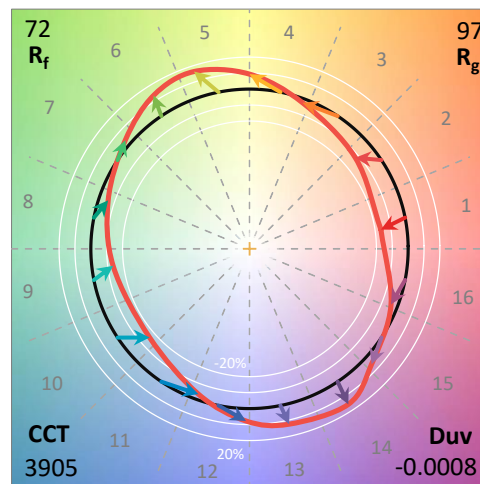
Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/05/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

Spectral Parameters

| | | | | | |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K): | 3905 | CRI (Ra): | 71.2 | R9: | -29.7 |
| CIE u': | 0.2273 | R1: | 68.9 | R10: | 46.2 |
| CIE v': | 0.5024 | R2: | 77.0 | R11: | 68.8 |
| Duv: | -0.0008 | R3: | 84.0 | R12: | 45.6 |
| CIE x: | 0.3841 | R4: | 71.6 | R13: | 69.5 |
| CIE y: | 0.3774 | R5: | 68.9 | R14: | 90.7 |
| CIE z: | 0.2385 | R6: | 68.3 | | |
| Peak Wavelength (nm): | 443 | R7: | 78.7 | | |
| Dominant Wavelength (nm): | 579 | R8: | 52.2 | | |
| Purity: | 28.7 | | | | |
| Rf: | 71.7 | | | | |
| Rg: | 96.9 | | | | |



Test Conditions

Stabilization Time: 211M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.8/312%
 Sphere Temperature (°C): 24.1

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| 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 4000K 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 | 2304 | 0.0 | 490 | 19043 | 2.7 | 620 | 97577 | 25.4 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 4.8 | 625 | 90158 | 19.9 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 8.0 | 630 | 82240 | 14.9 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 13.3 | 635 | 74361 | 11.2 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 20.2 | 640 | 66994 | 8.0 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 28.5 | 645 | 60405 | 5.8 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 37.4 | 650 | 53806 | 3.9 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 44.9 | 655 | 47610 | 2.7 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 52.6 | 660 | 42018 | 1.8 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.0 | 535 | 94097 | 58.4 | 665 | 36742 | 1.2 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.0 | 540 | 96845 | 63.1 | 670 | 32105 | 0.7 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.0 | 545 | 100829 | 67.1 | 675 | 27946 | 0.5 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 0.1 | 550 | 105648 | 71.8 | 680 | 24146 | 0.3 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 0.2 | 555 | 110017 | 75.1 | 685 | 21191 | 0.2 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 0.5 | 560 | 114586 | 77.9 | 690 | 18544 | 0.1 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 1.2 | 565 | 118987 | 79.1 | 695 | 16058 | 0.1 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 2.1 | 570 | 122326 | 79.5 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 2.9 | 575 | 125968 | 78.4 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 2.7 | 580 | 127613 | 75.8 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 2.0 | 585 | 129466 | 71.9 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 1.5 | 590 | 128813 | 66.6 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 1.3 | 595 | 126387 | 59.9 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 1.0 | 600 | 123477 | 53.2 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 1.1 | 605 | 118718 | 46.0 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 1.2 | 610 | 112091 | 38.5 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 1.7 | 615 | 105039 | 31.7 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-2

Scotopic Flux vs. Wavelength



Scotopic Lumens: 10425.8 S/P: 1.47

| 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 | 2304 | 0.0 | 490 | 19043 | 29.3 | 620 | 97577 | 1.2 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 43.0 | 625 | 90158 | 0.8 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 60.8 | 630 | 82240 | 0.5 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 81.1 | 635 | 74361 | 0.3 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 99.6 | 640 | 66994 | 0.2 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 113.9 | 645 | 60405 | 0.1 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 122.6 | 650 | 53806 | 0.1 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 125.0 | 655 | 47610 | 0.0 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 123.1 | 660 | 42018 | 0.0 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.1 | 535 | 94097 | 117.3 | 665 | 36742 | 0.0 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.2 | 540 | 96845 | 107.0 | 670 | 32105 | 0.0 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.9 | 545 | 100829 | 96.7 | 675 | 27946 | 0.0 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 3.0 | 550 | 105648 | 86.4 | 680 | 24146 | 0.0 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 9.3 | 555 | 110017 | 75.2 | 685 | 21191 | 0.0 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 23.0 | 560 | 114586 | 64.0 | 690 | 18544 | 0.0 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 45.7 | 565 | 118987 | 53.4 | 695 | 16058 | 0.0 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 75.5 | 570 | 122326 | 43.2 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 93.8 | 575 | 125968 | 34.3 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 79.3 | 580 | 127613 | 26.3 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 51.3 | 585 | 129466 | 19.8 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 35.6 | 590 | 128813 | 14.3 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 26.0 | 595 | 126387 | 10.1 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 19.3 | 600 | 123477 | 7.0 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 16.8 | 605 | 118718 | 4.7 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 17.7 | 610 | 112091 | 3.0 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 21.4 | 615 | 105039 | 1.9 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: 3927.2 M/P: 0.55

| 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 | 2304 | 0.0 | 490 | 19043 | 15.8 | 620 | 97577 | 0.1 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 22.0 | 625 | 90158 | 0.0 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 29.2 | 630 | 82240 | 0.0 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 36.6 | 635 | 74361 | 0.0 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 42.2 | 640 | 66994 | 0.0 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 44.9 | 645 | 60405 | 0.0 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 44.9 | 650 | 53806 | 0.0 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 42.4 | 655 | 47610 | 0.0 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 38.6 | 660 | 42018 | 0.0 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.0 | 535 | 94097 | 33.9 | 665 | 36742 | 0.0 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.2 | 540 | 96845 | 28.3 | 670 | 32105 | 0.0 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.6 | 545 | 100829 | 23.4 | 675 | 27946 | 0.0 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 2.1 | 550 | 105648 | 19.0 | 680 | 24146 | 0.0 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 5.9 | 555 | 110017 | 14.8 | 685 | 21191 | 0.0 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 14.3 | 560 | 114586 | 11.3 | 690 | 18544 | 0.0 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 27.3 | 565 | 118987 | 8.4 | 695 | 16058 | 0.0 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 45.1 | 570 | 122326 | 6.0 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 55.3 | 575 | 125968 | 4.2 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 47.2 | 580 | 127613 | 2.9 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 30.8 | 585 | 129466 | 1.9 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 21.7 | 590 | 128813 | 1.3 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 16.1 | 595 | 126387 | 0.8 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 12.0 | 600 | 123477 | 0.5 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 10.3 | 605 | 118718 | 0.3 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 10.5 | 610 | 112091 | 0.2 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 12.1 | 615 | 105039 | 0.1 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

Summary

$R_f = 71.7$
 $R_g = 96.9$
 CIE $R_a = 71.2$
 $R_g = -29.7$



Color Vector Graphics

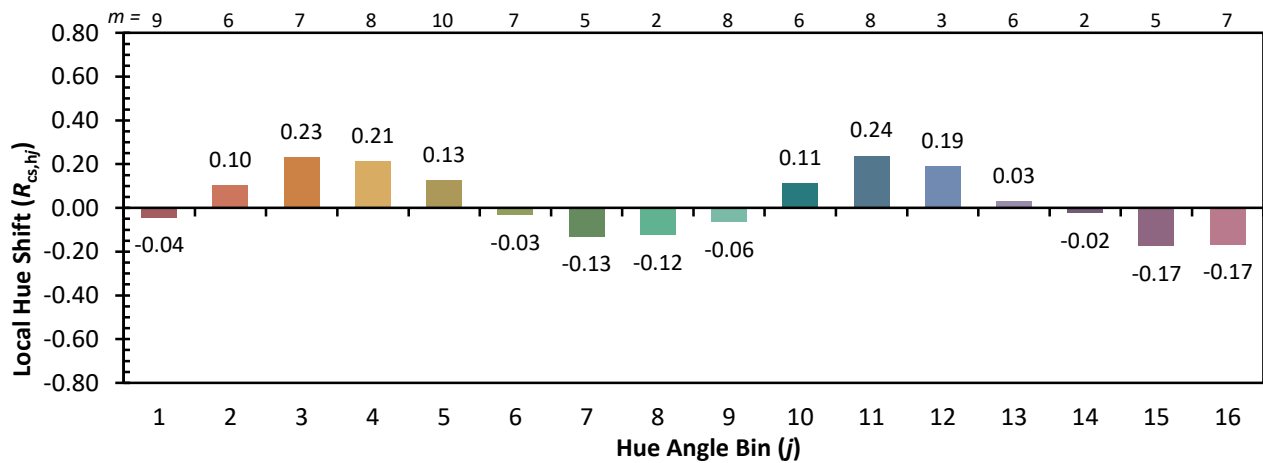


Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 55 | CES51 = 86 | CES76 = 45 |
| CES02 = 61 | CES27 = 80 | CES52 = 87 | CES77 = 68 |
| CES03 = 30 | CES28 = 79 | CES53 = 74 | CES78 = 49 |
| CES04 = 70 | CES29 = 51 | CES54 = 81 | CES79 = 77 |
| CES05 = 47 | CES30 = 60 | CES55 = 80 | CES80 = 75 |
| CES06 = 50 | CES31 = 56 | CES56 = 69 | CES81 = 75 |
| CES07 = 40 | CES32 = 52 | CES57 = 67 | CES82 = 90 |
| CES08 = 39 | CES33 = 62 | CES58 = 69 | CES83 = 85 |
| CES09 = 29 | CES34 = 65 | CES59 = 86 | CES84 = 87 |
| CES10 = 74 | CES35 = 81 | CES60 = 91 | CES85 = 83 |
| CES11 = 57 | CES36 = 92 | CES61 = 85 | CES86 = 72 |
| CES12 = 63 | CES37 = 74 | CES62 = 81 | CES87 = 77 |
| CES13 = 42 | CES38 = 69 | CES63 = 72 | CES88 = 77 |
| CES14 = 74 | CES39 = 92 | CES64 = 69 | CES89 = 72 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 75 |
| CES16 = 46 | CES41 = 84 | CES66 = 63 | CES91 = 91 |
| CES17 = 49 | CES42 = 75 | CES67 = 60 | CES92 = 66 |
| CES18 = 56 | CES43 = 70 | CES68 = 67 | CES93 = 80 |
| CES19 = 72 | CES44 = 98 | CES69 = 77 | CES94 = 56 |
| CES20 = 65 | CES45 = 80 | CES70 = 57 | CES95 = 72 |
| CES21 = 86 | CES46 = 77 | CES71 = 53 | CES96 = 78 |
| CES22 = 78 | CES47 = 74 | CES72 = 84 | CES97 = 83 |
| CES23 = 92 | CES48 = 66 | CES73 = 47 | CES98 = 73 |
| CES24 = 91 | CES49 = 76 | CES74 = 96 | CES99 = 63 |
| CES25 = 72 | CES50 = 85 | CES75 = 52 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)