

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: P316560

Luminaire Tested: **GLEON-SA6B-760-U-5MQ**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P316560  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GLEON-SA6B-760-U-5MQ  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(6) 70 CRI, 5700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 35905 lumens  
Efficiency: N/A  
Efficacy: 144.2 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B5 - U0 - G4

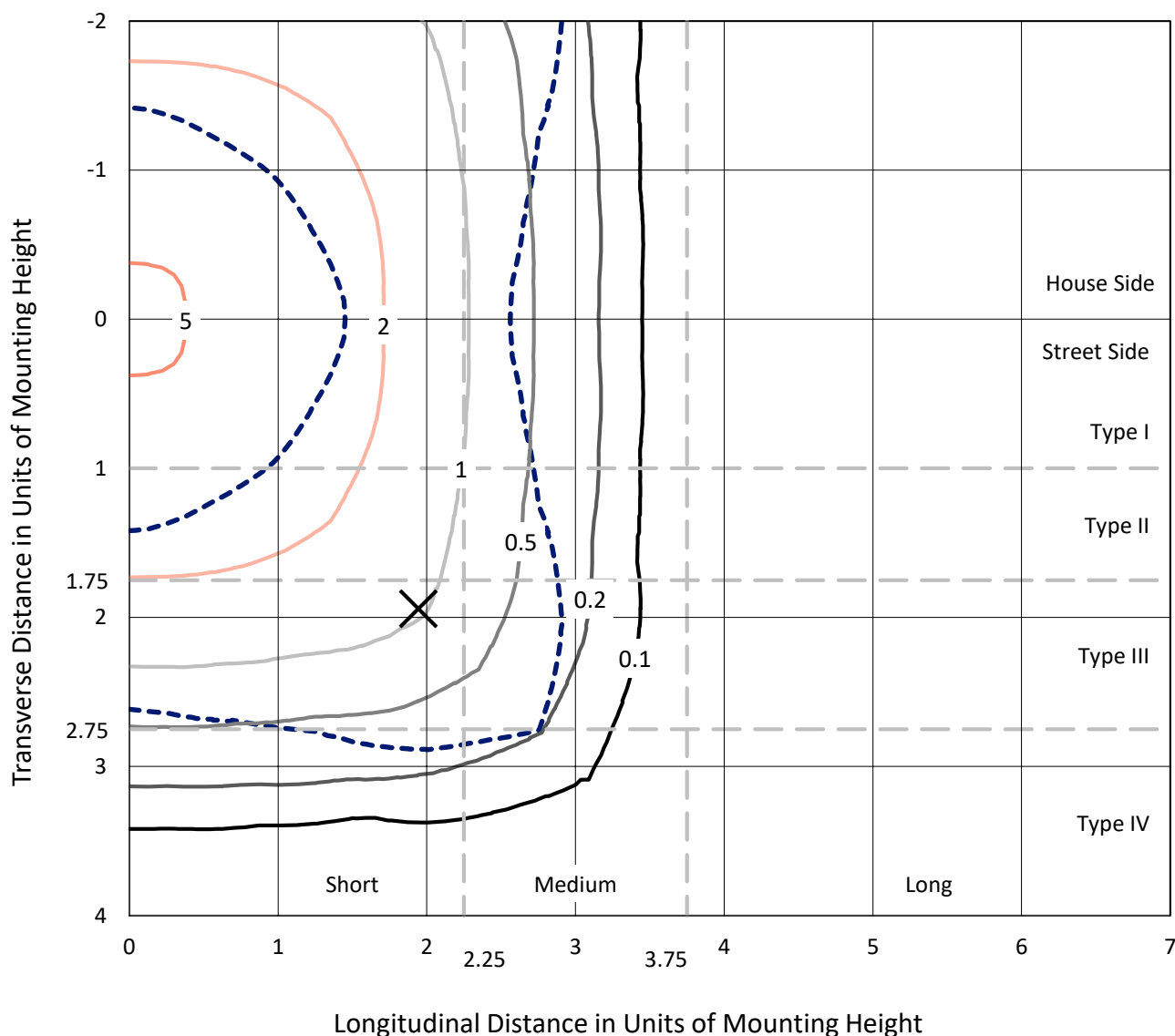
Input Watts (W): 249  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



REPORT NUMBER: P316560  
 CATALOG NUMBER: GLEON-SA6B-760-U-5MQ

## Iso-Footcandle Lines of Horizontal Illumination

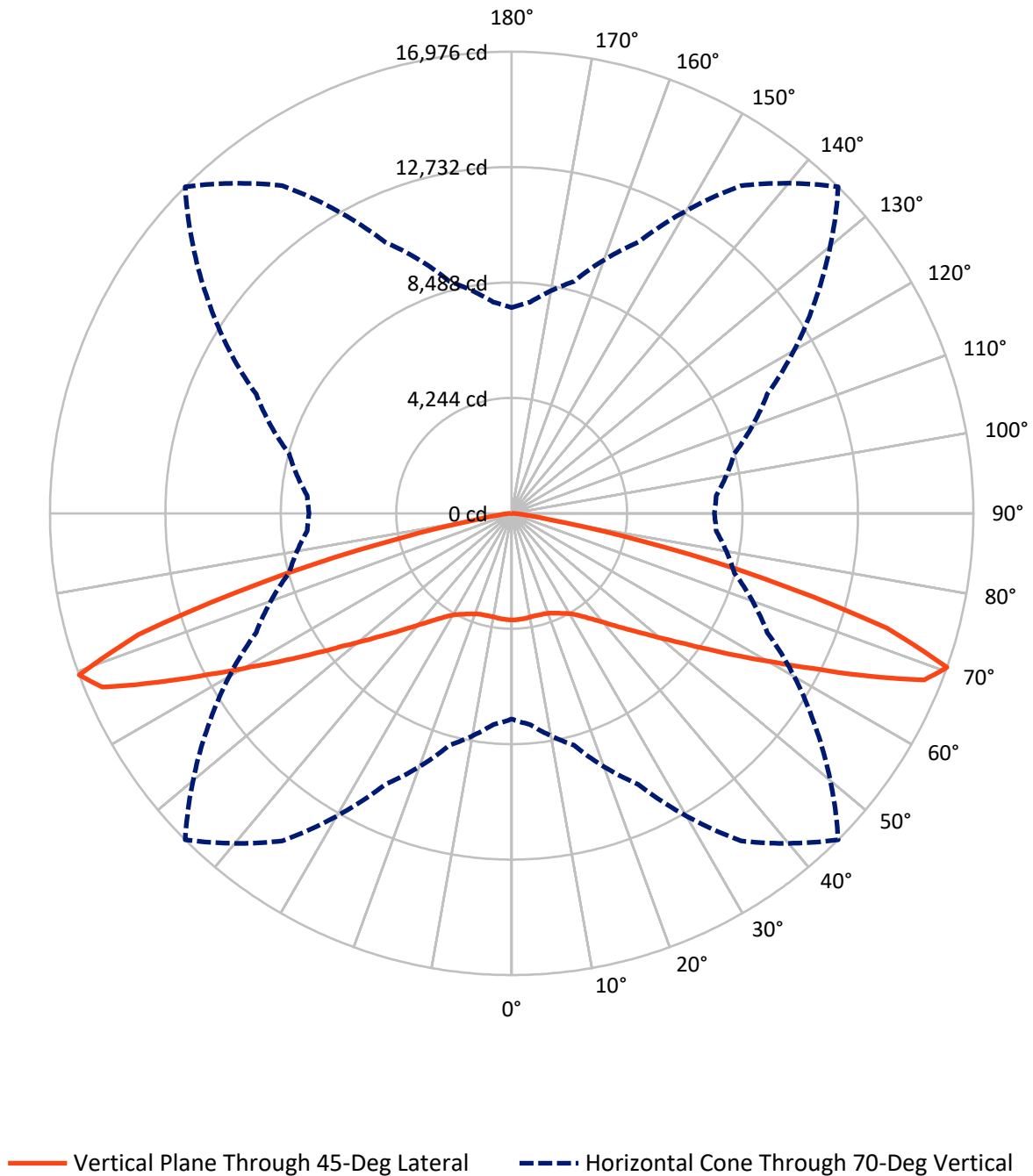
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.3 fc  
 Type V - Short - N/A

REPORT NUMBER: P316560  
CATALOG NUMBER: GLEON-SA6B-760-U-5MQ

## Luminous Intensity Polar Plot



REPORT NUMBER: P316560

CATALOG NUMBER: GLEON-SA6B-760-U-5MQ

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 17952.5  | 0.0    | 17952.5 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 17952.5  | 0.0    | 17952.5 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 35905.0  | 0.0    | 35905.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 371.4   | 1.0       |
| 10°-20°   | 1090.3  | 3.0       |
| 20°-30°   | 1856.1  | 5.2       |
| 30°-40°   | 2943.7  | 8.2       |
| 40°-50°   | 4790.4  | 13.3      |
| 50°-60°   | 7898.4  | 22.0      |
| 60°-70°   | 11595.1 | 32.3      |
| 70°-80°   | 5127.3  | 14.3      |
| 80°-90°   | 232.2   | 0.6       |
| 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°    | 35905.0 | 100.0     |
| 0°-180°   | 35905.0 | 100.0     |

**Coefficient of Utilization**



REPORT NUMBER: P316560

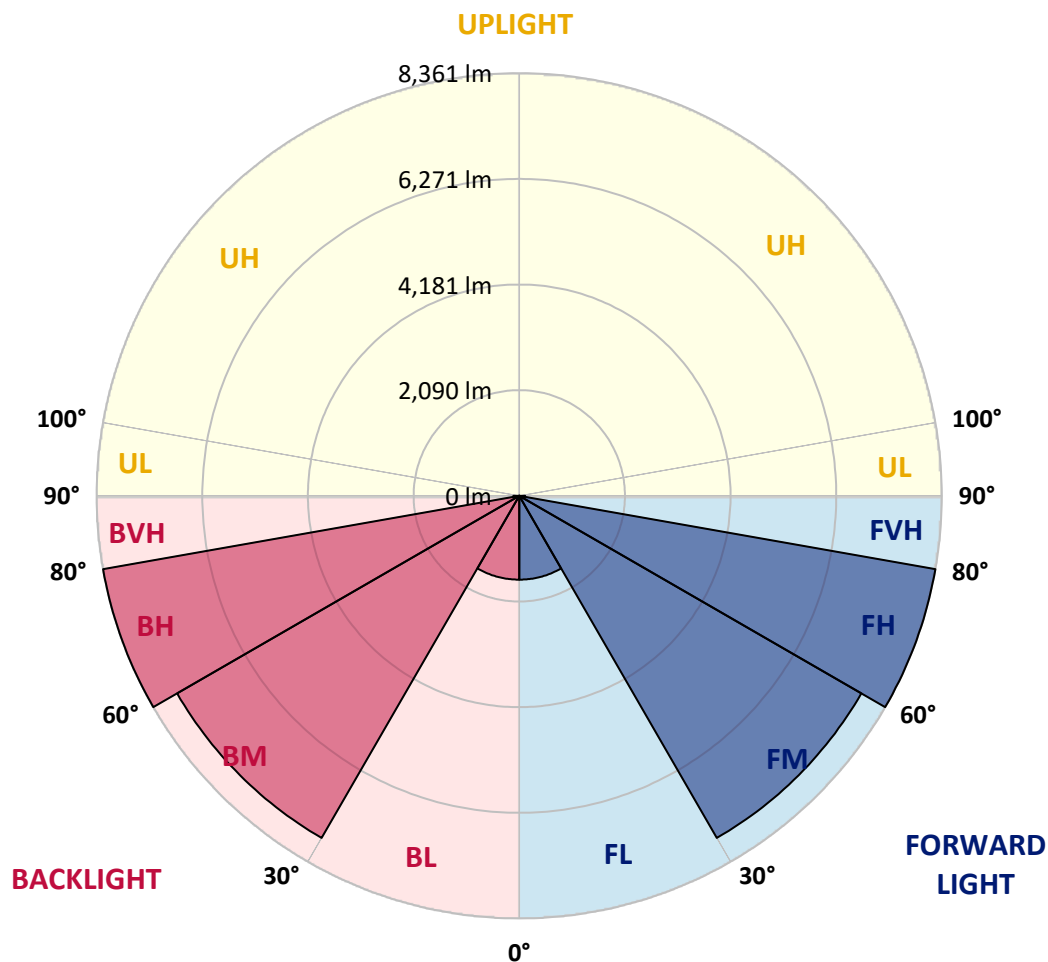
CATALOG NUMBER: GLEON-SA6B-760-U-5MQ

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1658.9 | 4.6       |                         |      |          |
| FM   | (30°-60°)   | 7816.3 | 21.8      |                         |      |          |
| FH   | (60°-80°)   | 8361.2 | 23.3      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 116.1  | 0.3       |                         |      | G2/225   |
| BL   | (0°-30°)    | 1658.9 | 4.6       | B3/2500                 |      |          |
| BM   | (30°-60°)   | 7816.3 | 21.8      | B4/8500                 |      |          |
| BH   | (60°-80°)   | 8361.2 | 23.3      | B5                      |      | G4/12000 |
| BVH  | (80°-90°)   | 116.1  | 0.3       |                         |      | G2/225   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |          |

**BUG Rating: B5-U0-G4**

Type V Short



REPORT NUMBER: P316560

CATALOG NUMBER: GLEON-SA6B-760-U-5MQ

**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     | 90°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 3921.4  | 3921.4  | 3921.4  | 3921.4  | 3921.4  | 3921.4  | 3921.4  | 3921.4  | 3921.4  | 3921.4  | 3921.4  |
| 2.5°  | 3915.4  | 3911.9  | 3920.2  | 3919.0  | 3911.9  | 3913.1  | 3913.1  | 3916.6  | 3916.6  | 3914.3  | 3914.3  |
| 5°    | 3901.2  | 3898.8  | 3908.3  | 3908.3  | 3901.2  | 3903.6  | 3905.9  | 3909.5  | 3908.3  | 3905.9  | 3904.7  |
| 7.5°  | 3883.4  | 3882.2  | 3891.7  | 3891.7  | 3886.9  | 3889.3  | 3886.9  | 3888.1  | 3885.7  | 3883.4  | 3879.8  |
| 10°   | 3853.7  | 3856.0  | 3864.3  | 3866.7  | 3866.7  | 3867.9  | 3865.5  | 3859.6  | 3856.0  | 3852.5  | 3848.9  |
| 12.5° | 3826.3  | 3825.1  | 3837.0  | 3843.0  | 3852.5  | 3863.2  | 3856.0  | 3839.4  | 3832.3  | 3825.1  | 3822.8  |
| 15°   | 3808.5  | 3809.7  | 3821.6  | 3832.3  | 3848.9  | 3871.5  | 3863.2  | 3837.0  | 3822.8  | 3814.4  | 3812.1  |
| 17.5° | 3804.9  | 3807.3  | 3822.8  | 3841.8  | 3859.6  | 3884.5  | 3879.8  | 3853.7  | 3829.9  | 3814.4  | 3810.9  |
| 20°   | 3813.2  | 3814.4  | 3838.2  | 3865.5  | 3896.4  | 3920.2  | 3909.5  | 3881.0  | 3848.9  | 3825.1  | 3819.2  |
| 22.5° | 3828.7  | 3833.5  | 3863.2  | 3905.9  | 3953.5  | 3985.6  | 3972.5  | 3923.8  | 3873.9  | 3844.1  | 3835.8  |
| 25°   | 3877.4  | 3878.6  | 3919.0  | 3977.2  | 4034.3  | 4071.1  | 4055.7  | 3986.7  | 3922.6  | 3889.3  | 3878.6  |
| 27.5° | 3978.4  | 3982.0  | 4022.4  | 4090.1  | 4138.8  | 4162.6  | 4153.1  | 4097.3  | 4042.6  | 4006.9  | 4010.5  |
| 30°   | 4124.6  | 4129.3  | 4174.5  | 4249.4  | 4279.1  | 4285.0  | 4282.6  | 4256.5  | 4206.6  | 4159.0  | 4162.6  |
| 32.5° | 4302.8  | 4305.2  | 4365.8  | 4433.5  | 4457.3  | 4462.1  | 4457.3  | 4433.5  | 4374.1  | 4310.0  | 4313.5  |
| 35°   | 4532.2  | 4539.3  | 4597.5  | 4662.9  | 4681.9  | 4691.4  | 4683.1  | 4652.2  | 4590.4  | 4527.4  | 4525.0  |
| 37.5° | 4815.0  | 4816.2  | 4876.8  | 4944.5  | 4968.3  | 4970.7  | 4961.1  | 4940.9  | 4863.7  | 4806.7  | 4803.1  |
| 40°   | 5143.0  | 5147.7  | 5219.0  | 5291.5  | 5301.0  | 5290.3  | 5303.4  | 5291.5  | 5211.9  | 5146.5  | 5157.2  |
| 42.5° | 5542.2  | 5552.9  | 5638.5  | 5709.8  | 5682.4  | 5676.5  | 5684.8  | 5688.4  | 5624.2  | 5544.6  | 5537.5  |
| 45°   | 6006.8  | 6016.4  | 6123.3  | 6180.3  | 6162.5  | 6123.3  | 6139.9  | 6168.5  | 6079.3  | 5980.7  | 5990.2  |
| 47.5° | 6536.8  | 6560.6  | 6674.7  | 6728.1  | 6684.2  | 6630.7  | 6662.8  | 6705.6  | 6601.0  | 6478.6  | 6472.7  |
| 50°   | 7126.2  | 7155.9  | 7308.0  | 7382.9  | 7338.9  | 7240.3  | 7293.8  | 7322.3  | 7171.4  | 7013.3  | 7000.3  |
| 52.5° | 7754.8  | 7784.5  | 7975.9  | 8130.3  | 8101.8  | 7948.5  | 8023.4  | 7993.7  | 7820.2  | 7607.5  | 7590.9  |
| 55°   | 8466.6  | 8478.5  | 8685.3  | 8934.8  | 8963.3  | 8850.4  | 8845.7  | 8797.0  | 8540.3  | 8294.3  | 8282.4  |
| 57.5° | 9198.6  | 9206.9  | 9474.3  | 9769.0  | 9903.3  | 9903.3  | 9770.2  | 9666.8  | 9325.8  | 9040.6  | 9010.9  |
| 60°   | 9988.8  | 10018.5 | 10314.4 | 10714.9 | 11028.6 | 11121.3 | 10886.0 | 10604.4 | 10233.6 | 9885.5  | 9851.0  |
| 62.5° | 10692.3 | 10726.8 | 11179.5 | 11776.0 | 12279.9 | 12617.4 | 12042.2 | 11583.5 | 10908.6 | 10350.1 | 10284.7 |
| 65°   | 10781.4 | 10874.1 | 11533.6 | 12613.8 | 13741.5 | 14415.2 | 13312.5 | 12182.4 | 10952.5 | 10176.6 | 10110.0 |
| 67.5° | 9846.2  | 10003.1 | 10894.3 | 12575.8 | 14906.0 | 16352.2 | 14124.1 | 11840.2 | 10163.5 | 9305.6  | 9231.9  |
| 70°   | 7565.9  | 7794.0  | 8821.9  | 11000.1 | 14705.2 | 16976.0 | 13615.5 | 10365.5 | 8473.8  | 7550.4  | 7447.1  |
| 72.5° | 4150.7  | 4244.6  | 5169.1  | 7532.6  | 11789.1 | 14425.9 | 11356.6 | 7664.5  | 5619.5  | 4572.6  | 4399.1  |
| 75°   | 1316.6  | 1349.9  | 1820.5  | 3082.4  | 6668.7  | 9555.1  | 7214.2  | 3762.2  | 2071.2  | 1527.0  | 1509.1  |
| 77.5° | 584.6   | 588.2   | 658.3   | 899.5   | 2297.0  | 4841.1  | 2759.2  | 1024.3  | 705.8   | 616.7   | 636.9   |
| 80°   | 369.6   | 369.6   | 407.6   | 445.6   | 625.0   | 1405.8  | 746.3   | 487.2   | 415.9   | 386.2   | 394.5   |
| 82.5° | 177.1   | 196.1   | 265.0   | 285.2   | 343.4   | 472.9   | 382.6   | 318.5   | 278.1   | 206.8   | 192.5   |
| 85°   | 116.5   | 97.4    | 167.6   | 188.9   | 199.6   | 227.0   | 222.2   | 210.3   | 181.8   | 103.4   | 115.3   |
| 87.5° | 52.3    | 49.9    | 86.7    | 79.6    | 74.9    | 57.0    | 85.6    | 105.8   | 102.2   | 51.1    | 51.1    |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |

LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-9-R4

Test Date: 10/23/2019

Luminaire Tested: SA1C-760-U-5WQ

Data in this report applies to families of products SA1C-760-U-5WQ .

### Test Information

Test Method: LM-79-2008  
 Report Number: SP1-1908-441-9-R4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/28/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW-EDISON  
 Catalog Number: **SA1C-760-U-5WQ**  
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.\*\*\*TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

### Spectral Parameters

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 5474   | CRI (Ra): | 71.7 |      |       |
| CIE u':                   | 0.2052 | R1:       | 70.6 | R9:  | -27.1 |
| CIE v':                   | 0.4804 | R2:       | 74.6 | R10: | 40.8  |
| Duv:                      | 0.0025 | R3:       | 78.3 | R11: | 74.6  |
| CIE x:                    | 0.3330 | R4:       | 73.8 | R12: | 50.4  |
| CIE y:                    | 0.3466 | R5:       | 72.4 | R13: | 70.0  |
| CIE z:                    | 0.3204 | R6:       | 67.5 | R14: | 87.8  |
| Peak Wavelength (nm):     | 442    | R7:       | 77.5 |      |       |
| Dominant Wavelength (nm): | 554    | R8:       | 58.9 |      |       |
| Purity:                   | 4.1    |           |      |      |       |
| Rf:                       | 72.1   |           |      |      |       |
| Rg:                       | 97.2   |           |      |      |       |



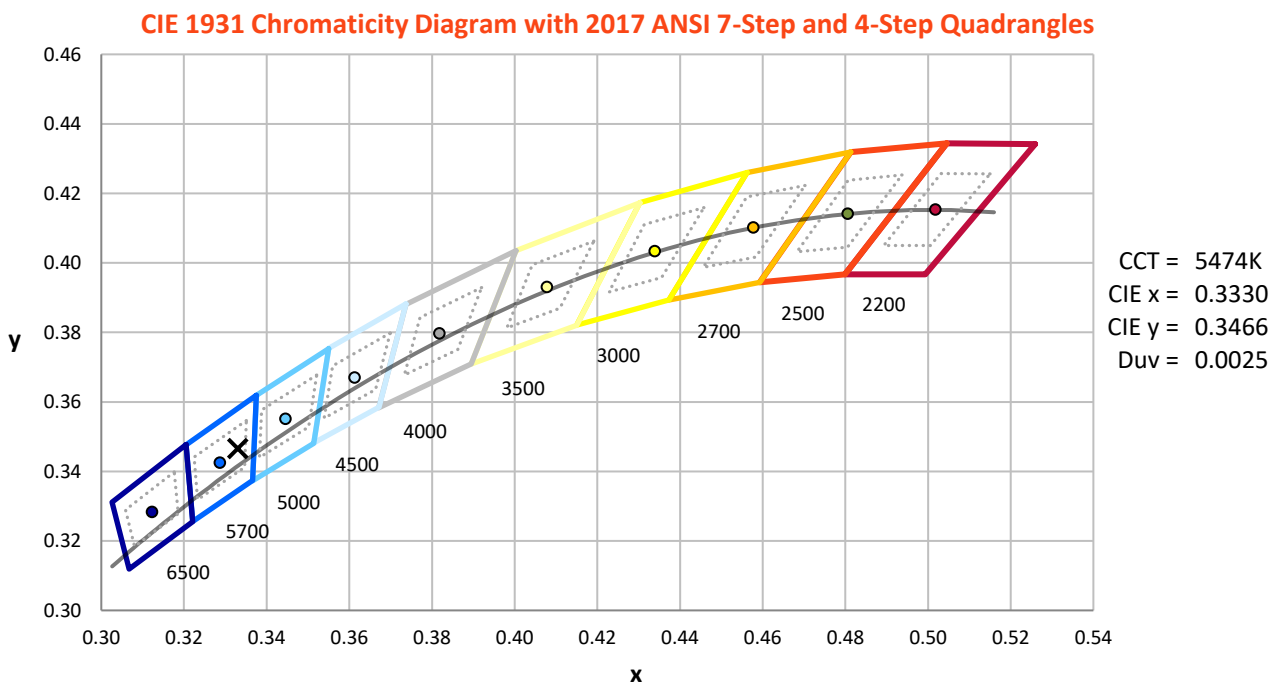
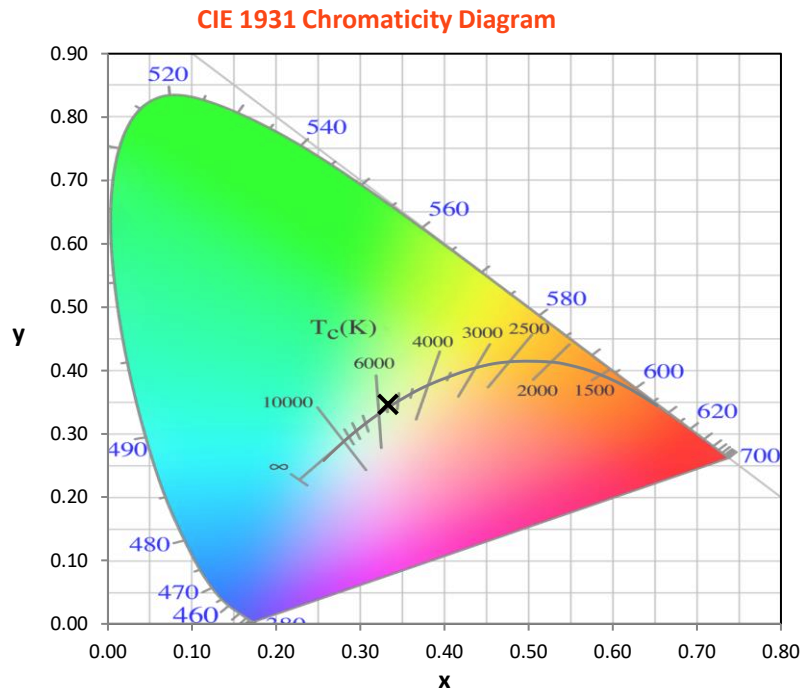
### Test Conditions

Stabilization Time: 240M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.6/31%  
 Sphere Temperature (°C): 25.9

REPORT NUMBER: SP1-1908-441-9-R4

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/28/2019        | 12/28/2019           |
| Power Meter                    | IN0071                | 12/5/2018        | 12/5/2019            |
| AC Power Source                | IN0063                | 12/5/2018        | 12/5/2019            |
| DC Power Source                | IN0208                | 12/5/2018        | 12/5/2019            |
| Sphere Thermometer             | IN0085                | 12/5/2018        | 12/5/2019            |
| Room Thermometer               | IN0046                | 12/5/2018        | 12/5/2019            |

REPORT NUMBER: SP1-1908-441-9-R4



Point lies inside the ANSI 5700K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-9-R4

**Photopic Flux vs. Wavelength**



#####

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 3540             | NR               | 490       | 33363            | NR               | 620       | 80193            | NR               | 750       | 4663             | NR               | 880       | 4678             | NR               |
| 365       | 2862             | NR               | 495       | 44177            | NR               | 625       | 73091            | NR               | 755       | 4147             | NR               | 885       | 4128             | NR               |
| 370       | 2865             | NR               | 500       | 57019            | NR               | 630       | 66269            | NR               | 760       | 4040             | NR               | 890       | 4504             | NR               |
| 375       | 3254             | NR               | 505       | 70030            | NR               | 635       | 60012            | NR               | 765       | 3474             | NR               | 895       | 4371             | NR               |
| 380       | 3076             | NR               | 510       | 81972            | NR               | 640       | 53914            | NR               | 770       | 3469             | NR               | 900       | 4082             | NR               |
| 385       | 2904             | NR               | 515       | 92590            | NR               | 645       | 48385            | NR               | 775       | 3181             | NR               | 905       | 2982             | NR               |
| 390       | 2689             | NR               | 520       | 100305           | NR               | 650       | 43219            | NR               | 780       | 2969             | NR               | 910       | 4351             | NR               |
| 395       | 2619             | NR               | 525       | 107452           | NR               | 655       | 38562            | NR               | 785       | 3132             | NR               | 915       | 3365             | NR               |
| 400       | 2679             | NR               | 530       | 111373           | NR               | 660       | 34110            | NR               | 790       | 2507             | NR               | 920       | 3430             | NR               |
| 405       | 3515             | NR               | 535       | 114505           | NR               | 665       | 30085            | NR               | 795       | 2968             | NR               | 925       | 4264             | NR               |
| 410       | 6934             | NR               | 540       | 116408           | NR               | 670       | 26205            | NR               | 800       | 2758             | NR               | 930       | 4095             | NR               |
| 415       | 14943            | NR               | 545       | 118700           | NR               | 675       | 22906            | NR               | 805       | 2872             | NR               | 935       | 5048             | NR               |
| 420       | 31939            | NR               | 550       | 119209           | NR               | 680       | 20058            | NR               | 810       | 3094             | NR               | 940       | 4074             | NR               |
| 425       | 64701            | NR               | 555       | 120742           | NR               | 685       | 17413            | NR               | 815       | 3222             | NR               | 945       | 4949             | NR               |
| 430       | 110939           | NR               | 560       | 121594           | NR               | 690       | 15447            | NR               | 820       | 3238             | NR               | 950       | 4387             | NR               |
| 435       | 164597           | NR               | 565       | 121913           | NR               | 695       | 13398            | NR               | 825       | 3524             | NR               | 955       | 4978             | NR               |
| 440       | 207696           | NR               | 570       | 122147           | NR               | 700       | 11777            | NR               | 830       | 2921             | NR               | 960       | 4706             | NR               |
| 445       | 201830           | NR               | 575       | 121605           | NR               | 705       | 10412            | NR               | 835       | 3595             | NR               | 965       | 5083             | NR               |
| 450       | 145410           | NR               | 580       | 120248           | NR               | 710       | 9544             | NR               | 840       | 3016             | NR               | 970       | 4522             | NR               |
| 455       | 89594            | NR               | 585       | 117717           | NR               | 715       | 8940             | NR               | 845       | 4032             | NR               | 975       | 4740             | NR               |
| 460       | 58321            | NR               | 590       | 114359           | NR               | 720       | 7897             | NR               | 850       | 3579             | NR               | 980       | 6122             | NR               |
| 465       | 39318            | NR               | 595       | 109974           | NR               | 725       | 7045             | NR               | 855       | 4571             | NR               | 985       | 6450             | NR               |
| 470       | 27693            | NR               | 600       | 105269           | NR               | 730       | 6483             | NR               | 860       | 4485             | NR               | 990       | 4875             | NR               |
| 475       | 23081            | NR               | 605       | 99453            | NR               | 735       | 5838             | NR               | 865       | 3978             | NR               | 995       | 4764             | NR               |
| 480       | 23002            | NR               | 610       | 92921            | NR               | 740       | 5261             | NR               | 870       | 4298             | NR               | 1000      | 3640             | NR               |
| 485       | 26201            | NR               | 615       | 86989            | NR               | 745       | 4760             | NR               | 875       | 4356             | NR               |           |                  |                  |

REPORT NUMBER: SP1-1908-441-9-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 13759.3

S/P: 1.85

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 3540             | NR               | 490       | 33363            | NR               | 620       | 80193            | NR               | 750       | 4663             | NR               | 880       | 4678             | NR               |
| 365       | 2862             | NR               | 495       | 44177            | NR               | 625       | 73091            | NR               | 755       | 4147             | NR               | 885       | 4128             | NR               |
| 370       | 2865             | NR               | 500       | 57019            | NR               | 630       | 66269            | NR               | 760       | 4040             | NR               | 890       | 4504             | NR               |
| 375       | 3254             | NR               | 505       | 70030            | NR               | 635       | 60012            | NR               | 765       | 3474             | NR               | 895       | 4371             | NR               |
| 380       | 3076             | NR               | 510       | 81972            | NR               | 640       | 53914            | NR               | 770       | 3469             | NR               | 900       | 4082             | NR               |
| 385       | 2904             | NR               | 515       | 92590            | NR               | 645       | 48385            | NR               | 775       | 3181             | NR               | 905       | 2982             | NR               |
| 390       | 2689             | NR               | 520       | 100305           | NR               | 650       | 43219            | NR               | 780       | 2969             | NR               | 910       | 4351             | NR               |
| 395       | 2619             | NR               | 525       | 107452           | NR               | 655       | 38562            | NR               | 785       | 3132             | NR               | 915       | 3365             | NR               |
| 400       | 2679             | NR               | 530       | 111373           | NR               | 660       | 34110            | NR               | 790       | 2507             | NR               | 920       | 3430             | NR               |
| 405       | 3515             | NR               | 535       | 114505           | NR               | 665       | 30085            | NR               | 795       | 2968             | NR               | 925       | 4264             | NR               |
| 410       | 6934             | NR               | 540       | 116408           | NR               | 670       | 26205            | NR               | 800       | 2758             | NR               | 930       | 4095             | NR               |
| 415       | 14943            | NR               | 545       | 118700           | NR               | 675       | 22906            | NR               | 805       | 2872             | NR               | 935       | 5048             | NR               |
| 420       | 31939            | NR               | 550       | 119209           | NR               | 680       | 20058            | NR               | 810       | 3094             | NR               | 940       | 4074             | NR               |
| 425       | 64701            | NR               | 555       | 120742           | NR               | 685       | 17413            | NR               | 815       | 3222             | NR               | 945       | 4949             | NR               |
| 430       | 110939           | NR               | 560       | 121594           | NR               | 690       | 15447            | NR               | 820       | 3238             | NR               | 950       | 4387             | NR               |
| 435       | 164597           | NR               | 565       | 121913           | NR               | 695       | 13398            | NR               | 825       | 3524             | NR               | 955       | 4978             | NR               |
| 440       | 207696           | NR               | 570       | 122147           | NR               | 700       | 11777            | NR               | 830       | 2921             | NR               | 960       | 4706             | NR               |
| 445       | 201830           | NR               | 575       | 121605           | NR               | 705       | 10412            | NR               | 835       | 3595             | NR               | 965       | 5083             | NR               |
| 450       | 145410           | NR               | 580       | 120248           | NR               | 710       | 9544             | NR               | 840       | 3016             | NR               | 970       | 4522             | NR               |
| 455       | 89594            | NR               | 585       | 117717           | NR               | 715       | 8940             | NR               | 845       | 4032             | NR               | 975       | 4740             | NR               |
| 460       | 58321            | NR               | 590       | 114359           | NR               | 720       | 7897             | NR               | 850       | 3579             | NR               | 980       | 6122             | NR               |
| 465       | 39318            | NR               | 595       | 109974           | NR               | 725       | 7045             | NR               | 855       | 4571             | NR               | 985       | 6450             | NR               |
| 470       | 27693            | NR               | 600       | 105269           | NR               | 730       | 6483             | NR               | 860       | 4485             | NR               | 990       | 4875             | NR               |
| 475       | 23081            | NR               | 605       | 99453            | NR               | 735       | 5838             | NR               | 865       | 3978             | NR               | 995       | 4764             | NR               |
| 480       | 23002            | NR               | 610       | 92921            | NR               | 740       | 5261             | NR               | 870       | 4298             | NR               | 1000      | 3640             | NR               |
| 485       | 26201            | NR               | 615       | 86989            | NR               | 745       | 4760             | NR               | 875       | 4356             | NR               |           |                  |                  |

REPORT NUMBER: SP1-1908-441-9-R4

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 5527.6 M/P: 0.74**

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 3540             | NR               | 490       | 33363            | NR               | 620       | 80193            | NR               | 750       | 4663             | NR               | 880       | 4678             | NR               |
| 365       | 2862             | NR               | 495       | 44177            | NR               | 625       | 73091            | NR               | 755       | 4147             | NR               | 885       | 4128             | NR               |
| 370       | 2865             | NR               | 500       | 57019            | NR               | 630       | 66269            | NR               | 760       | 4040             | NR               | 890       | 4504             | NR               |
| 375       | 3254             | NR               | 505       | 70030            | NR               | 635       | 60012            | NR               | 765       | 3474             | NR               | 895       | 4371             | NR               |
| 380       | 3076             | NR               | 510       | 81972            | NR               | 640       | 53914            | NR               | 770       | 3469             | NR               | 900       | 4082             | NR               |
| 385       | 2904             | NR               | 515       | 92590            | NR               | 645       | 48385            | NR               | 775       | 3181             | NR               | 905       | 2982             | NR               |
| 390       | 2689             | NR               | 520       | 100305           | NR               | 650       | 43219            | NR               | 780       | 2969             | NR               | 910       | 4351             | NR               |
| 395       | 2619             | NR               | 525       | 107452           | NR               | 655       | 38562            | NR               | 785       | 3132             | NR               | 915       | 3365             | NR               |
| 400       | 2679             | NR               | 530       | 111373           | NR               | 660       | 34110            | NR               | 790       | 2507             | NR               | 920       | 3430             | NR               |
| 405       | 3515             | NR               | 535       | 114505           | NR               | 665       | 30085            | NR               | 795       | 2968             | NR               | 925       | 4264             | NR               |
| 410       | 6934             | NR               | 540       | 116408           | NR               | 670       | 26205            | NR               | 800       | 2758             | NR               | 930       | 4095             | NR               |
| 415       | 14943            | NR               | 545       | 118700           | NR               | 675       | 22906            | NR               | 805       | 2872             | NR               | 935       | 5048             | NR               |
| 420       | 31939            | NR               | 550       | 119209           | NR               | 680       | 20058            | NR               | 810       | 3094             | NR               | 940       | 4074             | NR               |
| 425       | 64701            | NR               | 555       | 120742           | NR               | 685       | 17413            | NR               | 815       | 3222             | NR               | 945       | 4949             | NR               |
| 430       | 110939           | NR               | 560       | 121594           | NR               | 690       | 15447            | NR               | 820       | 3238             | NR               | 950       | 4387             | NR               |
| 435       | 164597           | NR               | 565       | 121913           | NR               | 695       | 13398            | NR               | 825       | 3524             | NR               | 955       | 4978             | NR               |
| 440       | 207696           | NR               | 570       | 122147           | NR               | 700       | 11777            | NR               | 830       | 2921             | NR               | 960       | 4706             | NR               |
| 445       | 201830           | NR               | 575       | 121605           | NR               | 705       | 10412            | NR               | 835       | 3595             | NR               | 965       | 5083             | NR               |
| 450       | 145410           | NR               | 580       | 120248           | NR               | 710       | 9544             | NR               | 840       | 3016             | NR               | 970       | 4522             | NR               |
| 455       | 89594            | NR               | 585       | 117717           | NR               | 715       | 8940             | NR               | 845       | 4032             | NR               | 975       | 4740             | NR               |
| 460       | 58321            | NR               | 590       | 114359           | NR               | 720       | 7897             | NR               | 850       | 3579             | NR               | 980       | 6122             | NR               |
| 465       | 39318            | NR               | 595       | 109974           | NR               | 725       | 7045             | NR               | 855       | 4571             | NR               | 985       | 6450             | NR               |
| 470       | 27693            | NR               | 600       | 105269           | NR               | 730       | 6483             | NR               | 860       | 4485             | NR               | 990       | 4875             | NR               |
| 475       | 23081            | NR               | 605       | 99453            | NR               | 735       | 5838             | NR               | 865       | 3978             | NR               | 995       | 4764             | NR               |
| 480       | 23002            | NR               | 610       | 92921            | NR               | 740       | 5261             | NR               | 870       | 4298             | NR               | 1000      | 3640             | NR               |
| 485       | 26201            | NR               | 615       | 86989            | NR               | 745       | 4760             | NR               | 875       | 4356             | NR               |           |                  |                  |

REPORT NUMBER: SP1-1908-441-9-R4

**TM-30-18**

### Summary

$R_f = 72.1$   
 $R_g = 97.2$   
 CIE  $R_a = 71.7$   
 $R_g = -27.1$



### Color Vector Graphics



REPORT NUMBER: SP1-1908-441-9-R4

**TM-30-18**

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

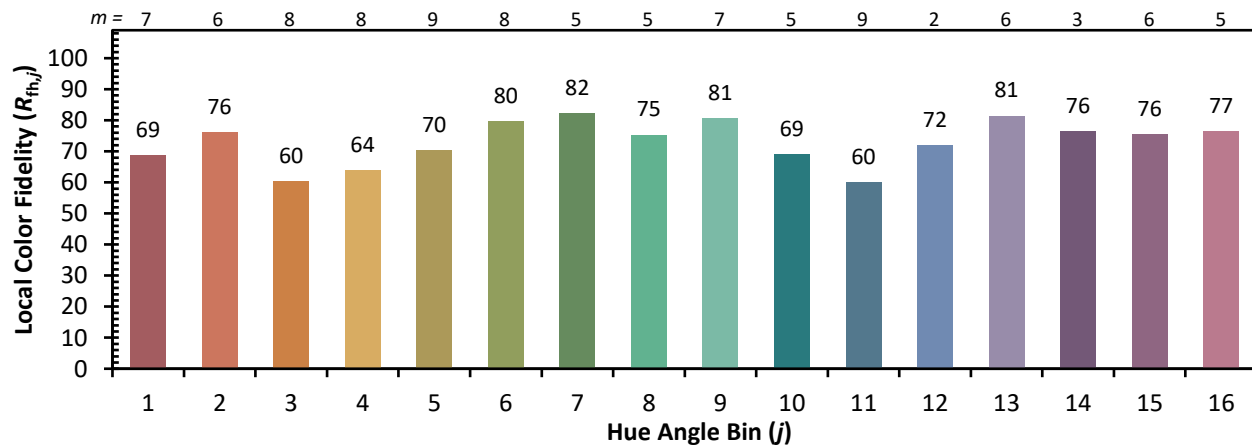
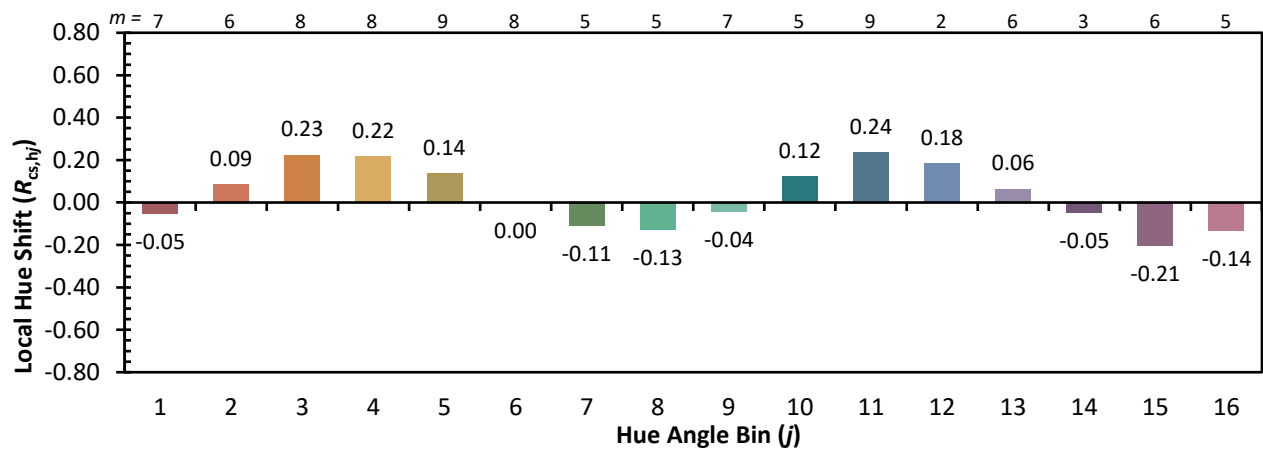
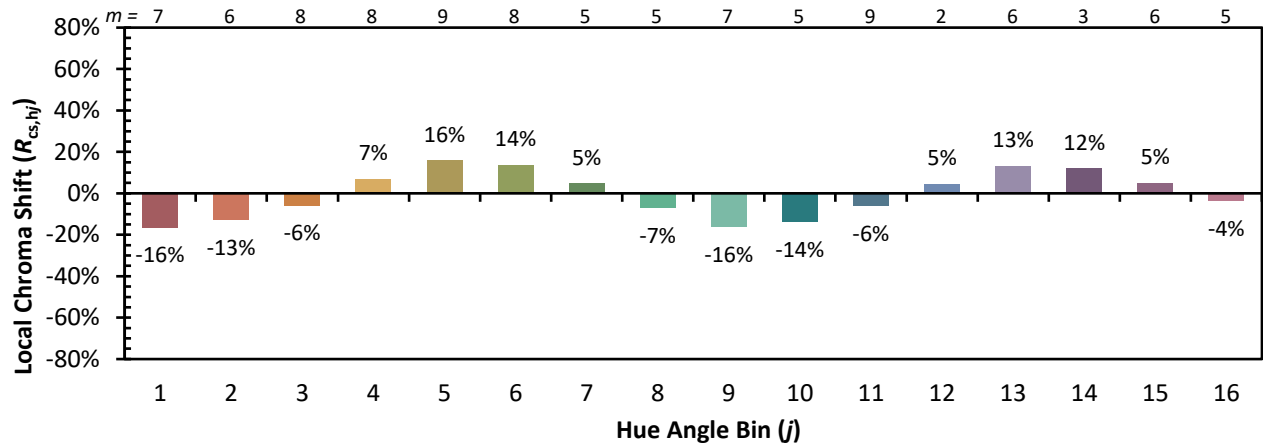
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 54 | CES51 = 88 | CES76 = 43 |
| CES02 = 59 | CES27 = 79 | CES52 = 90 | CES77 = 64 |
| CES03 = 30 | CES28 = 77 | CES53 = 77 | CES78 = 46 |
| CES04 = 69 | CES29 = 50 | CES54 = 81 | CES79 = 74 |
| CES05 = 46 | CES30 = 59 | CES55 = 80 | CES80 = 70 |
| CES06 = 50 | CES31 = 55 | CES56 = 70 | CES81 = 71 |
| CES07 = 38 | CES32 = 52 | CES57 = 68 | CES82 = 88 |
| CES08 = 38 | CES33 = 63 | CES58 = 70 | CES83 = 82 |
| CES09 = 29 | CES34 = 63 | CES59 = 88 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 92 | CES85 = 84 |
| CES11 = 55 | CES36 = 90 | CES61 = 88 | CES86 = 76 |
| CES12 = 61 | CES37 = 72 | CES62 = 81 | CES87 = 75 |
| CES13 = 41 | CES38 = 68 | CES63 = 75 | CES88 = 77 |
| CES14 = 74 | CES39 = 91 | CES64 = 72 | CES89 = 76 |
| CES15 = 70 | CES40 = 83 | CES65 = 65 | CES90 = 76 |
| CES16 = 46 | CES41 = 84 | CES66 = 66 | CES91 = 92 |
| CES17 = 48 | CES42 = 70 | CES67 = 64 | CES92 = 70 |
| CES18 = 55 | CES43 = 69 | CES68 = 71 | CES93 = 83 |
| CES19 = 70 | CES44 = 98 | CES69 = 80 | CES94 = 60 |
| CES20 = 64 | CES45 = 79 | CES70 = 58 | CES95 = 73 |
| CES21 = 85 | CES46 = 78 | CES71 = 55 | CES96 = 79 |
| CES22 = 77 | CES47 = 76 | CES72 = 84 | CES97 = 84 |
| CES23 = 91 | CES48 = 68 | CES73 = 47 | CES98 = 73 |
| CES24 = 90 | CES49 = 78 | CES74 = 94 | CES99 = 62 |
| CES25 = 71 | CES50 = 87 | CES75 = 51 |            |



REPORT NUMBER: SP1-1908-441-9-R4

**TM-30-18**

Color Rendition by Hue-Angle Bin



REPORT NUMBER: SP1-1908-441-9-R4

**TM-30-18**

**Measure Comparisons**



(END OF REPORT)