

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P630669

Luminaire Tested: GWS-SA1E-727-U-SLL-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P630669  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-38)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA1E-727-U-SLL-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (16) 2700K CCT, 70 CRI LEDS  
Ballast/Driver: -

**Summary**

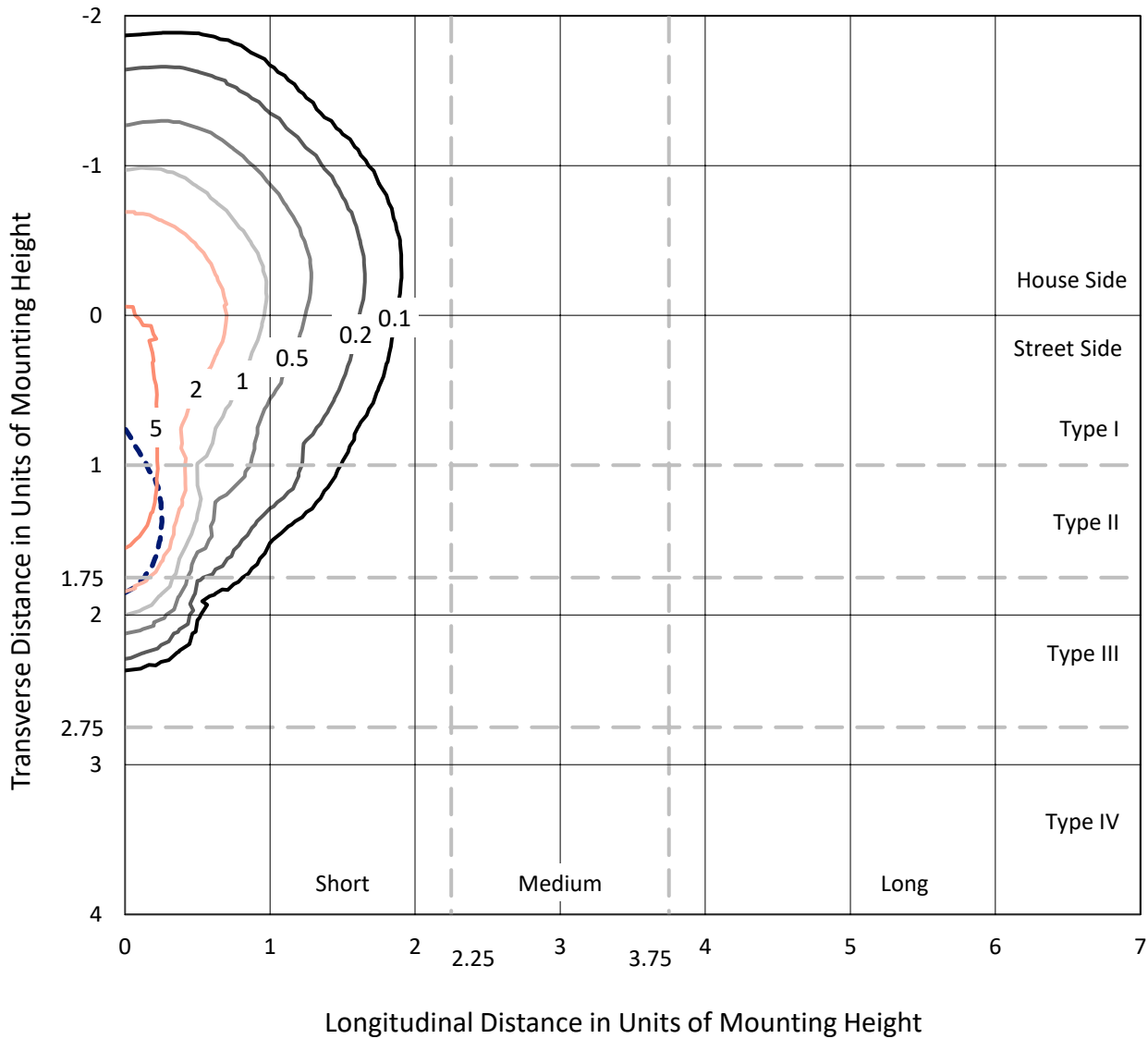
Lumens per Lamp: N/A  
Luminaire Lumens: 3398.1 lumens  
Efficiency: N/A  
Efficacy: 58.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G0  
  
Input Watts (W): 58.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
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

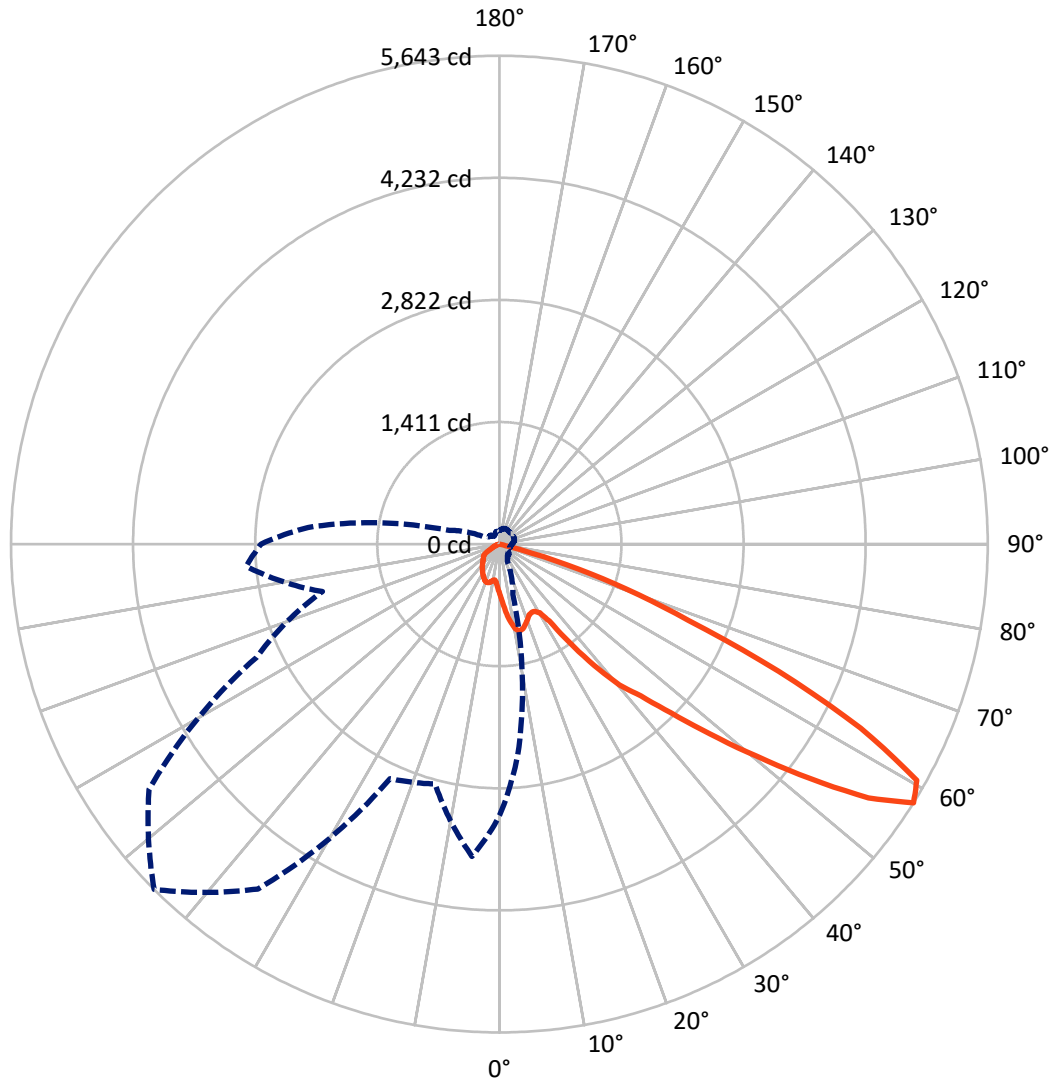
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.1 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 315-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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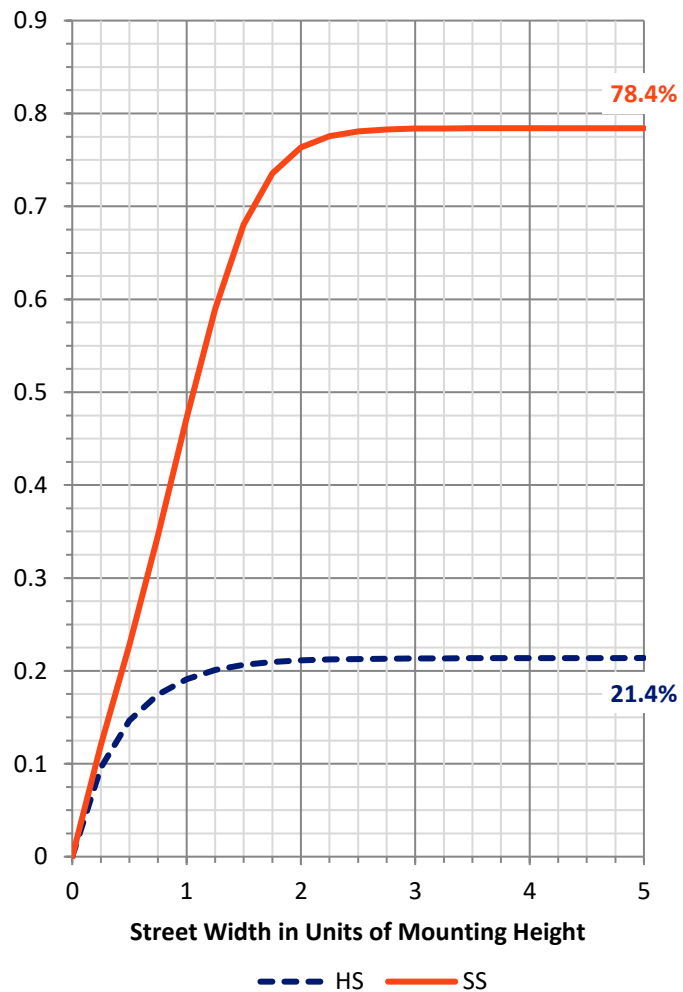
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 732.1    | 0.0    | 732.1  |
|                    | % Fixture | 21.5     | 0.0    | 21.5   |
| <b>Street Side</b> | Lumens    | 2666.0   | 0.0    | 2666.0 |
|                    | % Fixture | 78.5     | 0.0    | 78.5   |
| <b>Total</b>       | Lumens    | 3398.1   | 0.0    | 3398.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 57.1   | 1.7       |
| 10°-20°   | 187.8  | 5.5       |
| 20°-30°   | 304.7  | 9.0       |
| 30°-40°   | 467.7  | 13.8      |
| 40°-50°   | 747.0  | 22.0      |
| 50°-60°   | 1045.9 | 30.8      |
| 60°-70°   | 536.3  | 15.8      |
| 70°-80°   | 51.6   | 1.5       |
| 80°-90°   | 0.0    | 0.0       |
| 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°    | 3398.1 | 100.0     |
| 0°-180°   | 3398.1 | 100.0     |

**Coefficient of Utilization**



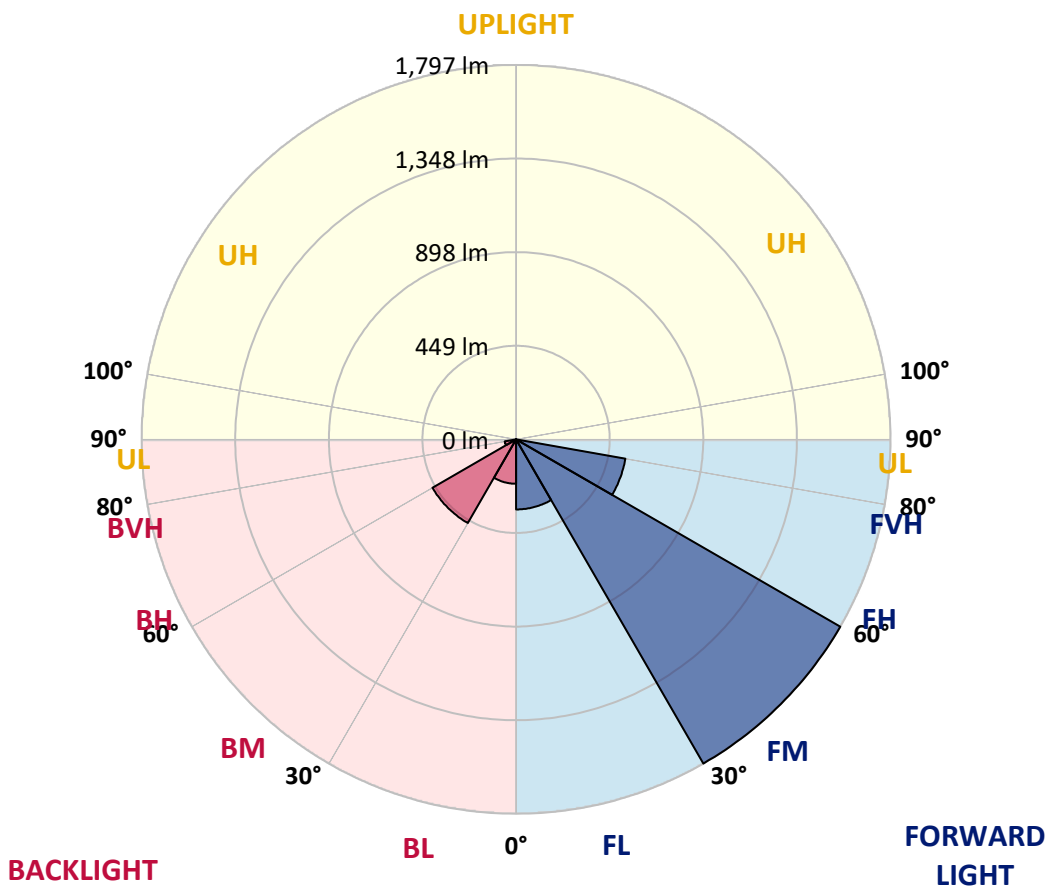
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |        |
|----------------|--------|-----------|-------------------------|------|--------|
|                |        |           | B                       | U    | G      |
| FL (0°-30°)    | 336.4  | 9.9       |                         |      |        |
| FM (30°-60°)   | 1797.0 | 52.9      |                         |      |        |
| FH (60°-80°)   | 532.6  | 15.7      |                         |      | G0/660 |
| FVH (80°-90°)  | 0.0    | 0.0       |                         |      | G0/10  |
| BL (0°-30°)    | 213.2  | 6.3       | B1/500                  |      |        |
| BM (30°-60°)   | 463.6  | 13.6      | B1/1000                 |      |        |
| BH (60°-80°)   | 55.3   | 1.6       | B0/110                  |      | G0/110 |
| BVH (80°-90°)  | 0.0    | 0.0       |                         |      | G0/10  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |        |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |        |

**BUG Rating: B1-U0-G0**  
 Type III Short





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CATALOG NUMBER: GWS-SA1E-727-U-SLL-W-GRSBK

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 1°     | 5°     | 15°    | 25°   | 35°   | 45°   | 55°   | 65°   | 75°   | 85°   |
|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 577.4  | 577.4  | 577.4  | 577.4  | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 |
| 2.5°  | 641.4  | 640.1  | 635.5  | 620.1  | 610.5 | 595.6 | 584.7 | 570.6 | 555.1 | 545.6 | 536.0 |
| 5°    | 709.6  | 705.9  | 693.7  | 658.2  | 631.0 | 601.5 | 577.8 | 551.9 | 524.2 | 506.1 | 489.3 |
| 7.5°  | 775.0  | 769.5  | 753.2  | 693.2  | 651.9 | 609.6 | 576.0 | 538.3 | 499.3 | 472.0 | 451.1 |
| 10°   | 839.1  | 826.8  | 800.9  | 727.3  | 671.4 | 620.5 | 581.0 | 537.9 | 492.0 | 457.5 | 434.3 |
| 12.5° | 891.7  | 882.7  | 847.2  | 759.6  | 687.8 | 622.8 | 574.2 | 534.2 | 503.3 | 480.2 | 458.8 |
| 15°   | 937.2  | 927.2  | 893.6  | 788.6  | 701.9 | 613.7 | 545.6 | 510.6 | 515.6 | 524.7 | 506.5 |
| 17.5° | 979.0  | 968.5  | 932.2  | 812.7  | 707.3 | 591.5 | 505.6 | 488.8 | 516.5 | 550.6 | 543.8 |
| 20°   | 1022.1 | 1010.3 | 965.8  | 832.2  | 705.5 | 556.5 | 465.2 | 470.2 | 509.2 | 548.3 | 551.9 |
| 22.5° | 1072.6 | 1060.3 | 1008.5 | 857.2  | 704.1 | 514.7 | 430.2 | 453.8 | 495.6 | 528.8 | 535.1 |
| 25°   | 1139.3 | 1124.8 | 1068.0 | 894.0  | 707.8 | 476.5 | 405.2 | 437.9 | 472.4 | 502.4 | 506.1 |
| 27.5° | 1227.5 | 1208.8 | 1136.6 | 939.4  | 715.5 | 446.6 | 394.3 | 416.1 | 442.9 | 469.7 | 472.9 |
| 30°   | 1342.4 | 1318.8 | 1215.2 | 979.0  | 711.9 | 425.7 | 387.0 | 394.3 | 410.2 | 432.0 | 432.5 |
| 32.5° | 1476.9 | 1444.6 | 1303.3 | 1013.0 | 680.5 | 410.2 | 377.1 | 372.1 | 375.7 | 392.5 | 395.7 |
| 35°   | 1634.9 | 1593.2 | 1400.5 | 1045.3 | 623.3 | 380.2 | 358.9 | 342.1 | 340.7 | 348.9 | 356.6 |
| 37.5° | 1816.2 | 1766.2 | 1523.2 | 1086.6 | 555.6 | 348.9 | 332.1 | 315.3 | 308.0 | 312.1 | 323.9 |
| 40°   | 1983.4 | 1928.0 | 1651.3 | 1136.6 | 486.5 | 320.7 | 300.7 | 283.5 | 274.8 | 276.2 | 290.7 |
| 42.5° | 2179.6 | 2122.4 | 1808.0 | 1202.0 | 429.3 | 301.6 | 268.0 | 250.3 | 239.0 | 245.3 | 262.1 |
| 45°   | 2477.6 | 2412.7 | 2036.5 | 1258.8 | 383.9 | 297.1 | 239.4 | 214.4 | 209.0 | 219.9 | 239.9 |
| 47.5° | 2884.7 | 2805.2 | 2350.4 | 1293.3 | 345.3 | 301.2 | 219.4 | 185.3 | 186.7 | 199.0 | 219.0 |
| 50°   | 3288.5 | 3202.7 | 2713.4 | 1247.9 | 313.5 | 293.0 | 209.4 | 162.6 | 171.3 | 182.2 | 200.3 |
| 52.5° | 3566.1 | 3454.3 | 2890.1 | 1116.6 | 284.4 | 262.1 | 208.5 | 141.3 | 157.6 | 161.3 | 176.7 |
| 55°   | 3577.0 | 3439.3 | 2799.7 | 880.4  | 244.9 | 221.2 | 199.0 | 123.6 | 142.6 | 144.0 | 157.2 |
| 57.5° | 3135.4 | 3011.0 | 2446.7 | 604.6  | 217.6 | 162.2 | 158.5 | 108.1 | 117.2 | 128.6 | 136.7 |
| 60°   | 2385.4 | 2279.6 | 1829.8 | 277.1  | 165.4 | 103.1 | 108.6 | 93.1  | 87.7  | 104.5 | 112.7 |
| 62.5° | 1461.0 | 1393.3 | 1097.5 | 122.7  | 105.4 | 55.0  | 65.9  | 74.0  | 65.9  | 72.2  | 79.0  |
| 65°   | 580.1  | 550.1  | 416.6  | 52.2   | 43.2  | 27.7  | 30.0  | 43.2  | 46.3  | 50.9  | 57.2  |
| 67.5° | 100.8  | 95.4   | 70.0   | 23.2   | 17.7  | 16.8  | 14.5  | 20.0  | 28.2  | 31.3  | 36.3  |
| 70°   | 13.2   | 12.7   | 11.4   | 9.5    | 9.1   | 8.2   | 6.4   | 12.7  | 19.1  | 20.0  | 23.2  |
| 72.5° | 3.2    | 2.7    | 2.7    | 2.3    | 2.7   | 0.9   | 0.9   | 6.8   | 13.6  | 14.1  | 16.4  |
| 75°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   | 2.3   | 8.6   | 9.5   | 11.4  |
| 77.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.5   |
| 80°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 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   |



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**CANDELA DISTRIBUTION (continued):**

|       | 90°   | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 |
| 2.5°  | 528.3 | 519.2 | 516.1 | 511.5 | 505.6 | 507.4 | 499.3 | 496.5 | 500.6 | 506.1 | 504.7 |
| 5°    | 480.2 | 470.2 | 463.4 | 452.9 | 451.1 | 447.0 | 444.3 | 440.6 | 445.2 | 451.6 | 452.9 |
| 7.5°  | 442.0 | 433.4 | 426.6 | 423.4 | 421.1 | 419.3 | 413.8 | 411.1 | 411.1 | 413.8 | 416.1 |
| 10°   | 425.7 | 419.3 | 417.9 | 418.8 | 422.5 | 422.0 | 417.0 | 413.4 | 408.9 | 406.6 | 409.3 |
| 12.5° | 448.4 | 437.9 | 436.1 | 436.6 | 441.1 | 440.6 | 435.2 | 430.7 | 429.7 | 430.7 | 439.3 |
| 15°   | 487.0 | 471.1 | 459.3 | 457.0 | 459.3 | 458.4 | 454.3 | 451.6 | 452.9 | 466.1 | 480.6 |
| 17.5° | 521.5 | 497.0 | 475.6 | 467.5 | 467.0 | 465.6 | 461.5 | 460.6 | 467.5 | 492.0 | 513.3 |
| 20°   | 531.5 | 507.4 | 477.0 | 466.5 | 464.3 | 462.9 | 458.4 | 459.7 | 468.4 | 497.9 | 516.1 |
| 22.5° | 518.3 | 495.2 | 463.4 | 452.9 | 451.1 | 450.6 | 446.1 | 447.9 | 455.2 | 481.1 | 496.1 |
| 25°   | 493.3 | 473.8 | 440.6 | 431.6 | 431.6 | 430.7 | 426.6 | 427.5 | 432.0 | 454.7 | 469.3 |
| 27.5° | 462.9 | 444.3 | 416.6 | 407.5 | 408.9 | 410.2 | 405.2 | 403.9 | 407.5 | 428.8 | 437.5 |
| 30°   | 427.9 | 414.8 | 393.0 | 384.8 | 384.3 | 389.8 | 383.0 | 381.1 | 386.1 | 402.9 | 404.8 |
| 32.5° | 393.9 | 387.5 | 372.1 | 365.7 | 366.1 | 367.1 | 363.4 | 363.4 | 368.0 | 377.1 | 376.6 |
| 35°   | 360.7 | 356.6 | 353.9 | 349.3 | 348.9 | 347.1 | 347.1 | 348.0 | 353.0 | 356.2 | 350.2 |
| 37.5° | 328.9 | 333.0 | 336.2 | 331.6 | 328.0 | 328.0 | 328.0 | 332.1 | 336.6 | 335.3 | 325.3 |
| 40°   | 300.7 | 309.4 | 319.4 | 314.4 | 305.7 | 305.3 | 307.1 | 313.9 | 320.7 | 312.5 | 303.5 |
| 42.5° | 276.7 | 287.6 | 301.6 | 298.9 | 289.4 | 288.0 | 289.4 | 298.0 | 303.5 | 293.0 | 283.0 |
| 45°   | 253.0 | 266.7 | 283.5 | 283.5 | 273.0 | 271.7 | 272.1 | 283.5 | 286.6 | 274.4 | 261.7 |
| 47.5° | 233.0 | 248.0 | 265.8 | 265.8 | 257.1 | 254.4 | 256.7 | 268.5 | 270.7 | 253.5 | 241.7 |
| 50°   | 214.0 | 230.3 | 249.9 | 248.5 | 242.6 | 240.3 | 244.4 | 257.1 | 254.4 | 235.3 | 223.1 |
| 52.5° | 189.9 | 207.2 | 234.0 | 235.3 | 232.1 | 232.6 | 237.6 | 245.8 | 238.0 | 214.9 | 204.4 |
| 55°   | 168.1 | 185.8 | 212.6 | 219.9 | 219.9 | 219.4 | 221.7 | 228.0 | 221.7 | 194.0 | 181.3 |
| 57.5° | 144.5 | 159.5 | 181.7 | 183.5 | 184.9 | 179.9 | 183.1 | 191.7 | 188.5 | 164.9 | 157.6 |
| 60°   | 118.6 | 131.3 | 144.0 | 145.4 | 139.5 | 129.0 | 134.9 | 144.9 | 147.2 | 129.5 | 121.3 |
| 62.5° | 84.0  | 96.3  | 111.3 | 111.3 | 105.4 | 94.9  | 102.7 | 111.3 | 108.1 | 89.9  | 85.0  |
| 65°   | 62.7  | 74.0  | 85.4  | 90.4  | 85.4  | 78.1  | 84.0  | 90.4  | 85.4  | 70.4  | 63.1  |
| 67.5° | 40.4  | 48.2  | 55.0  | 59.1  | 60.0  | 59.1  | 61.8  | 60.0  | 54.1  | 44.1  | 40.0  |
| 70°   | 24.5  | 28.6  | 32.3  | 35.9  | 38.6  | 40.0  | 41.3  | 37.3  | 31.3  | 25.9  | 24.5  |
| 72.5° | 17.7  | 21.4  | 24.5  | 27.3  | 30.4  | 31.3  | 31.3  | 28.6  | 23.2  | 18.2  | 16.8  |
| 75°   | 12.3  | 15.4  | 18.2  | 20.0  | 22.7  | 23.6  | 23.6  | 21.4  | 17.3  | 13.2  | 11.8  |
| 77.5° | 0.5   | 3.2   | 3.2   | 2.7   | 3.6   | 4.5   | 4.5   | 5.5   | 5.0   | 3.6   | 3.2   |
| 80°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 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   |





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CATALOG NUMBER: GWS-SA1E-727-U-SLL-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

|       | 185°  | 195°  | 205°  | 215°  | 225°  | 235°  | 245°  | 255°   | 265°   | 270°   | 275°   |
|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| 0°    | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4 | 577.4  | 577.4  | 577.4  | 577.4  |
| 2.5°  | 507.4 | 523.8 | 528.3 | 545.1 | 560.1 | 575.1 | 593.3 | 604.2  | 620.5  | 631.9  | 638.3  |
| 5°    | 457.5 | 471.1 | 487.4 | 512.4 | 538.3 | 566.9 | 601.5 | 631.4  | 669.2  | 696.9  | 705.9  |
| 7.5°  | 421.1 | 438.8 | 457.9 | 489.3 | 524.7 | 562.9 | 611.5 | 660.5  | 718.2  | 755.9  | 780.0  |
| 10°   | 414.3 | 432.5 | 457.9 | 488.8 | 526.1 | 569.7 | 629.2 | 692.8  | 765.0  | 810.9  | 838.1  |
| 12.5° | 447.0 | 466.5 | 477.4 | 491.5 | 519.7 | 568.3 | 644.6 | 725.5  | 810.4  | 860.4  | 889.5  |
| 15°   | 495.2 | 512.4 | 494.7 | 477.0 | 495.2 | 553.8 | 653.3 | 752.7  | 850.4  | 908.1  | 938.1  |
| 17.5° | 528.3 | 529.7 | 491.1 | 453.4 | 458.4 | 527.4 | 656.4 | 780.0  | 893.1  | 953.5  | 984.9  |
| 20°   | 525.1 | 514.2 | 475.2 | 433.4 | 417.9 | 493.3 | 652.8 | 804.1  | 936.3  | 999.4  | 1030.3 |
| 22.5° | 500.6 | 487.9 | 454.7 | 413.8 | 383.9 | 452.9 | 646.4 | 825.9  | 975.8  | 1047.6 | 1076.6 |
| 25°   | 471.1 | 457.5 | 430.2 | 394.3 | 362.1 | 413.8 | 641.4 | 855.9  | 1025.8 | 1110.3 | 1133.0 |
| 27.5° | 436.6 | 424.8 | 401.6 | 375.7 | 353.0 | 384.3 | 640.1 | 895.4  | 1086.2 | 1186.6 | 1202.5 |
| 30°   | 402.9 | 392.0 | 373.9 | 358.9 | 349.3 | 367.1 | 635.5 | 937.6  | 1158.4 | 1274.3 | 1291.5 |
| 32.5° | 370.7 | 359.8 | 348.4 | 346.2 | 346.6 | 360.7 | 620.1 | 979.4  | 1244.3 | 1401.4 | 1414.2 |
| 35°   | 343.0 | 330.3 | 325.7 | 331.2 | 341.2 | 349.8 | 576.5 | 1013.9 | 1336.5 | 1540.0 | 1550.5 |
| 37.5° | 316.6 | 303.9 | 303.5 | 316.6 | 327.5 | 333.0 | 525.1 | 1048.0 | 1461.0 | 1680.8 | 1694.0 |
| 40°   | 292.6 | 279.8 | 284.4 | 300.3 | 308.9 | 311.6 | 462.9 | 1099.8 | 1592.7 | 1829.4 | 1822.1 |
| 42.5° | 272.1 | 258.9 | 261.7 | 282.1 | 289.8 | 297.1 | 405.7 | 1143.0 | 1719.4 | 1970.2 | 1967.9 |
| 45°   | 252.1 | 242.1 | 240.3 | 262.6 | 269.4 | 298.5 | 363.9 | 1176.1 | 1882.5 | 2149.6 | 2153.3 |
| 47.5° | 232.6 | 224.9 | 225.3 | 234.9 | 251.7 | 305.3 | 328.4 | 1197.9 | 2119.2 | 2434.0 | 2370.9 |
| 50°   | 214.9 | 209.0 | 214.0 | 203.1 | 240.3 | 296.6 | 298.0 | 1193.4 | 2383.6 | 2706.6 | 2579.8 |
| 52.5° | 195.3 | 194.0 | 196.2 | 169.9 | 222.1 | 261.7 | 269.4 | 1133.0 | 2507.6 | 2892.8 | 2820.6 |
| 55°   | 175.4 | 174.9 | 156.7 | 135.8 | 185.8 | 209.0 | 230.8 | 945.4  | 2503.5 | 2991.9 | 3079.6 |
| 57.5° | 151.7 | 148.1 | 119.0 | 110.8 | 144.5 | 145.4 | 210.3 | 619.2  | 2218.7 | 2754.7 | 2936.5 |
| 60°   | 114.9 | 112.2 | 87.2  | 89.9  | 100.8 | 93.1  | 167.6 | 308.5  | 1658.1 | 2146.0 | 2350.9 |
| 62.5° | 79.5  | 75.9  | 65.0  | 69.5  | 65.0  | 53.2  | 102.7 | 152.6  | 1004.4 | 1355.1 | 1540.9 |
| 65°   | 58.1  | 54.1  | 44.5  | 38.2  | 30.4  | 30.4  | 39.1  | 58.6   | 388.9  | 576.0  | 694.6  |
| 67.5° | 35.9  | 34.1  | 26.3  | 19.1  | 18.6  | 20.0  | 20.4  | 29.1   | 62.7   | 99.9   | 122.2  |
| 70°   | 23.2  | 21.4  | 17.7  | 12.3  | 11.4  | 11.8  | 12.3  | 13.6   | 15.9   | 17.3   | 20.9   |
| 72.5° | 15.9  | 15.0  | 12.7  | 6.8   | 5.5   | 5.9   | 6.4   | 6.4    | 7.7    | 7.3    | 8.6    |
| 75°   | 11.4  | 10.4  | 9.1   | 3.2   | 1.8   | 2.3   | 2.7   | 2.3    | 2.7    | 1.8    | 2.3    |
| 77.5° | 3.2   | 3.2   | 2.3   | 0.5   | 0.0   | 0.5   | 0.9   | 0.9    | 0.5    | 0.0    | 0.0    |
| 80°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.5   | 0.5    | 0.0    | 0.0    | 0.0    |
| 82.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 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    |



REPORT NUMBER: P630669

CATALOG NUMBER: GWS-SA1E-727-U-SLL-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

|       | 285°   | 295°   | 305°   | 315°   | 325°   | 335°   | 345°   | 355°   | 359°   | 360°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 577.4  | 577.4  | 577.4  | 577.4  | 577.4  | 577.4  | 577.4  | 577.4  | 577.4  | 577.4  |
| 2.5°  | 654.6  | 665.1  | 669.2  | 663.2  | 668.2  | 660.1  | 656.9  | 644.6  | 643.7  | 641.4  |
| 5°    | 742.7  | 766.4  | 780.4  | 789.1  | 779.1  | 768.2  | 751.8  | 723.7  | 715.0  | 709.6  |
| 7.5°  | 829.5  | 866.3  | 890.4  | 901.7  | 899.0  | 876.8  | 847.2  | 800.0  | 783.2  | 775.0  |
| 10°   | 904.9  | 949.9  | 979.0  | 993.1  | 987.1  | 967.6  | 925.4  | 866.3  | 844.0  | 839.1  |
| 12.5° | 957.6  | 999.0  | 1018.9 | 1031.2 | 1031.7 | 1023.9 | 984.0  | 924.5  | 898.1  | 891.7  |
| 15°   | 990.8  | 1008.5 | 1009.0 | 1016.2 | 1028.9 | 1046.2 | 1027.6 | 974.9  | 946.7  | 937.2  |
| 17.5° | 1011.7 | 992.1  | 972.2  | 974.0  | 994.9  | 1040.8 | 1059.8 | 1019.4 | 989.4  | 979.0  |
| 20°   | 1026.7 | 964.9  | 927.6  | 928.1  | 949.4  | 1018.9 | 1082.1 | 1062.6 | 1031.7 | 1022.1 |
| 22.5° | 1036.2 | 940.8  | 887.7  | 886.3  | 909.0  | 993.1  | 1102.5 | 1113.9 | 1083.5 | 1072.6 |
| 25°   | 1055.7 | 929.5  | 863.6  | 871.3  | 891.3  | 984.9  | 1130.2 | 1182.0 | 1153.9 | 1139.3 |
| 27.5° | 1090.7 | 940.8  | 861.3  | 879.0  | 901.7  | 1009.0 | 1178.4 | 1272.9 | 1243.8 | 1227.5 |
| 30°   | 1151.1 | 983.5  | 896.3  | 920.8  | 948.1  | 1072.1 | 1259.3 | 1399.6 | 1357.8 | 1342.4 |
| 32.5° | 1248.4 | 1072.1 | 1004.4 | 1057.1 | 1083.5 | 1175.7 | 1380.6 | 1541.8 | 1507.7 | 1476.9 |
| 35°   | 1382.4 | 1274.3 | 1266.5 | 1389.2 | 1382.8 | 1371.9 | 1529.6 | 1716.3 | 1664.9 | 1634.9 |
| 37.5° | 1566.8 | 1599.5 | 1656.8 | 1778.5 | 1774.4 | 1691.3 | 1725.3 | 1881.2 | 1854.8 | 1816.2 |
| 40°   | 1797.1 | 1866.6 | 1963.8 | 2138.3 | 2083.8 | 1979.3 | 1965.7 | 2050.2 | 2028.8 | 1983.4 |
| 42.5° | 1933.0 | 2052.9 | 2238.2 | 2395.0 | 2351.3 | 2168.7 | 2153.3 | 2275.9 | 2229.1 | 2179.6 |
| 45°   | 1996.1 | 2204.6 | 2568.0 | 2780.2 | 2648.0 | 2294.6 | 2288.7 | 2570.3 | 2544.0 | 2477.6 |
| 47.5° | 2025.2 | 2357.7 | 2954.2 | 3275.3 | 3028.2 | 2404.9 | 2383.6 | 2997.3 | 2962.8 | 2884.7 |
| 50°   | 2057.4 | 2568.9 | 3419.4 | 3849.1 | 3487.5 | 2529.9 | 2545.3 | 3395.3 | 3380.7 | 3288.5 |
| 52.5° | 2128.3 | 2792.4 | 3992.2 | 4505.1 | 4044.4 | 2725.7 | 2822.9 | 3770.5 | 3672.4 | 3566.1 |
| 55°   | 2234.6 | 3035.9 | 4588.2 | 5175.1 | 4612.7 | 2988.7 | 3123.2 | 3969.9 | 3694.6 | 3577.0 |
| 57.5° | 2116.9 | 3096.8 | 4941.2 | 5643.0 | 4864.9 | 2989.6 | 2869.2 | 3624.2 | 3249.5 | 3135.4 |
| 60°   | 1679.9 | 2881.0 | 4805.4 | 5541.7 | 4650.0 | 2654.8 | 2196.9 | 2829.7 | 2461.7 | 2385.4 |
| 62.5° | 1135.7 | 2416.3 | 4230.2 | 4686.8 | 3979.9 | 2088.3 | 1427.8 | 1840.3 | 1524.1 | 1461.0 |
| 65°   | 622.4  | 1802.6 | 3418.0 | 3545.6 | 3115.0 | 1458.7 | 734.6  | 798.6  | 608.3  | 580.1  |
| 67.5° | 171.7  | 1254.7 | 2514.9 | 2352.3 | 2185.5 | 949.9  | 189.9  | 142.6  | 101.8  | 100.8  |
| 70°   | 43.2   | 830.0  | 1506.8 | 1553.2 | 1340.1 | 608.3  | 36.3   | 17.3   | 13.6   | 13.2   |
| 72.5° | 18.2   | 357.1  | 715.0  | 821.8  | 686.0  | 281.7  | 13.2   | 5.0    | 4.1    | 3.2    |
| 75°   | 2.3    | 28.6   | 60.9   | 92.2   | 63.1   | 30.4   | 0.0    | 0.0    | 0.0    | 0.0    |
| 77.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 80°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 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    |

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-1-R4

Test Date: 08/20/2019

Luminaire Tested: SA1C-727-U-5WQ

**Test Information**

Test Method: LM-79-2008  
 Report Number: SP1-1908-441-1-R4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 10/28/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGRAW-EDISON  
 Catalog Number: **SA1C-727-U-5WQ**  
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-1-R3. TO UPDATE THE CATALOG NUMBER.\*\*\*TESTED IN  
 SITU. (1) 70 CRI, 2700K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

**Spectral Parameters**

CCT (K): 2741  
 CIE u': 0.2605  
 CIE v': 0.5272  
 Duv: 0.0005  
 CIE x: 0.4573  
 CIE y: 0.4113  
 CIE z: 0.1313  
 Peak Wavelength (nm): 602  
 Dominant Wavelength (nm): 583  
 Purity: 61.2  
 Rf: 69.9  
 Rg: 98.3

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 71.5 |      |       |
| R1:       | 69.2 | R9:  | -16.1 |
| R2:       | 79.4 | R10: | 51.4  |
| R3:       | 87.8 | R11: | 63.1  |
| R4:       | 69.4 | R12: | 42.0  |
| R5:       | 66.4 | R13: | 70.2  |
| R6:       | 69.8 | R14: | 92.4  |
| R7:       | 79.8 |      |       |
| R8:       | 50.1 |      |       |



**Test Conditions**

Stabilization Time: 56M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.3./42%  
 Sphere Temperature (°C): 25.7

REPORT NUMBER: SP1-1908-441-1-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: SP1-1908-441-1-R4

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-1-R4

**Photopic Flux vs. Wavelength**



**Photopic Lumens: 6211.7**

| $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) |
|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|
| 360            | 2044                              | 0.0                         | 490            | 7179                              | 1.0                         | 620            | 118034                            | 30.7                        | 750            | 8362                              | 0.0                         | 880            | 3128                              | 0.0                         |
| 365            | 2016                              | 0.0                         | 495            | 10476                             | 1.9                         | 625            | 111884                            | 24.7                        | 755            | 7635                              | 0.0                         | 885            | 3110                              | 0.0                         |
| 370            | 2020                              | 0.0                         | 500            | 15549                             | 3.4                         | 630            | 106119                            | 19.2                        | 760            | 6582                              | 0.0                         | 890            | 2632                              | 0.0                         |
| 375            | 2137                              | 0.0                         | 505            | 22477                             | 6.3                         | 635            | 99706                             | 15.0                        | 765            | 5777                              | 0.0                         | 895            | 2709                              | 0.0                         |
| 380            | 2046                              | 0.0                         | 510            | 30417                             | 10.4                        | 640            | 92142                             | 11.0                        | 770            | 5474                              | 0.0                         | 900            | 2016                              | 0.0                         |
| 385            | 1925                              | 0.0                         | 515            | 39274                             | 16.3                        | 645            | 84987                             | 8.2                         | 775            | 4977                              | 0.0                         | 905            | 1748                              | 0.0                         |
| 390            | 1893                              | 0.0                         | 520            | 47282                             | 22.9                        | 650            | 78016                             | 5.7                         | 780            | 4723                              | 0.0                         | 910            | 2046                              | 0.0                         |
| 395            | 1695                              | 0.0                         | 525            | 55413                             | 29.7                        | 655            | 71541                             | 4.1                         | 785            | 4219                              | 0.0                         | 915            | 1844                              | 0.0                         |
| 400            | 1633                              | 0.0                         | 530            | 62377                             | 36.7                        | 660            | 64863                             | 2.7                         | 790            | 3969                              | 0.0                         | 920            | 2734                              | 0.0                         |
| 405            | 2065                              | 0.0                         | 535            | 68520                             | 42.5                        | 665            | 58485                             | 1.9                         | 795            | 4122                              | 0.0                         | 925            | 2307                              | 0.0                         |
| 410            | 3449                              | 0.0                         | 540            | 73435                             | 47.8                        | 670            | 51641                             | 1.1                         | 800            | 2864                              | 0.0                         | 930            | 2039                              | 0.0                         |
| 415            | 7117                              | 0.0                         | 545            | 78677                             | 52.4                        | 675            | 46030                             | 0.8                         | 805            | 3151                              | 0.0                         | 935            | 1784                              | 0.0                         |
| 420            | 13992                             | 0.0                         | 550            | 83331                             | 56.6                        | 680            | 40590                             | 0.5                         | 810            | 3022                              | 0.0                         | 940            | 2464                              | 0.0                         |
| 425            | 25176                             | 0.1                         | 555            | 89120                             | 60.9                        | 685            | 35691                             | 0.3                         | 815            | 3471                              | 0.0                         | 945            | 2794                              | 0.0                         |
| 430            | 38151                             | 0.3                         | 560            | 94613                             | 64.3                        | 690            | 31631                             | 0.2                         | 820            | 2749                              | 0.0                         | 950            | 3090                              | 0.0                         |
| 435            | 49673                             | 0.6                         | 565            | 99818                             | 66.4                        | 695            | 27437                             | 0.1                         | 825            | 2729                              | 0.0                         | 955            | 1866                              | 0.0                         |
| 440            | 57273                             | 0.9                         | 570            | 106526                            | 69.3                        | 700            | 24589                             | 0.1                         | 830            | 2282                              | 0.0                         | 960            | 3110                              | 0.0                         |
| 445            | 54802                             | 1.1                         | 575            | 111610                            | 69.4                        | 705            | 21832                             | 0.0                         | 835            | 3140                              | 0.0                         | 965            | 3880                              | 0.0                         |
| 450            | 39184                             | 1.0                         | 580            | 117163                            | 69.6                        | 710            | 19500                             | 0.0                         | 840            | 2365                              | 0.0                         | 970            | 3243                              | 0.0                         |
| 455            | 22506                             | 0.8                         | 585            | 122201                            | 67.9                        | 715            | 17870                             | 0.0                         | 845            | 3024                              | 0.0                         | 975            | 2014                              | 0.0                         |
| 460            | 13692                             | 0.6                         | 590            | 125662                            | 65.0                        | 720            | 15924                             | 0.0                         | 850            | 2510                              | 0.0                         | 980            | 1688                              | 0.0                         |
| 465            | 9446                              | 0.5                         | 595            | 127415                            | 60.4                        | 725            | 14268                             | 0.0                         | 855            | 2739                              | 0.0                         | 985            | 2827                              | 0.0                         |
| 470            | 6698                              | 0.4                         | 600            | 129155                            | 55.7                        | 730            | 12438                             | 0.0                         | 860            | 3515                              | 0.0                         | 990            | 4172                              | 0.0                         |
| 475            | 5328                              | 0.4                         | 605            | 128057                            | 49.6                        | 735            | 11255                             | 0.0                         | 865            | 3600                              | 0.0                         | 995            | 3177                              | 0.0                         |
| 480            | 5081                              | 0.5                         | 610            | 126031                            | 43.3                        | 740            | 9951                              | 0.0                         | 870            | 3609                              | 0.0                         | 1000           | 3241                              | 0.0                         |
| 485            | 5579                              | 0.7                         | 615            | 123059                            | 37.1                        | 745            | 8870                              | 0.0                         | 875            | 3208                              | 0.0                         |                |                                   |                             |

REPORT NUMBER: SP1-1908-441-1-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 6474.3

S/P: 1.04

| 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    | 2044          | 0.0           | 490    | 7179          | 6.0           | 620    | 118034        | 0.1           | 750    | 8362          | 0.0           | 880    | 3128          | 0.0           |
| 365    | 2016          | 0.0           | 495    | 10476         | 8.6           | 625    | 111884        | 0.1           | 755    | 7635          | 0.0           | 885    | 3110          | 0.0           |
| 370    | 2020          | 0.0           | 500    | 15549         | 12.5          | 630    | 106119        | 0.0           | 760    | 6582          | 0.0           | 890    | 2632          | 0.0           |
| 375    | 2137          | 0.0           | 505    | 22477         | 17.3          | 635    | 99706         | 0.0           | 765    | 5777          | 0.0           | 895    | 2709          | 0.0           |
| 380    | 2046          | 0.0           | 510    | 30417         | 21.8          | 640    | 92142         | 0.0           | 770    | 5474          | 0.0           | 900    | 2016          | 0.0           |
| 385    | 1925          | 0.0           | 515    | 39274         | 25.7          | 645    | 84987         | 0.0           | 775    | 4977          | 0.0           | 905    | 1748          | 0.0           |
| 390    | 1893          | 0.0           | 520    | 47282         | 27.5          | 650    | 78016         | 0.0           | 780    | 4723          | 0.0           | 910    | 2046          | 0.0           |
| 395    | 1695          | 0.0           | 525    | 55413         | 28.1          | 655    | 71541         | 0.0           | 785    | 4219          | 0.0           | 915    | 1844          | 0.0           |
| 400    | 1633          | 0.0           | 530    | 62377         | 27.0          | 660    | 64863         | 0.0           | 790    | 3969          | 0.0           | 920    | 2734          | 0.0           |
| 405    | 2065          | 0.0           | 535    | 68520         | 24.7          | 665    | 58485         | 0.0           | 795    | 4122          | 0.0           | 925    | 2307          | 0.0           |
| 410    | 3449          | 0.1           | 540    | 73435         | 21.5          | 670    | 51641         | 0.0           | 800    | 2864          | 0.0           | 930    | 2039          | 0.0           |
| 415    | 7117          | 0.5           | 545    | 78677         | 18.3          | 675    | 46030         | 0.0           | 805    | 3151          | 0.0           | 935    | 1784          | 0.0           |
| 420    | 13992         | 1.6           | 550    | 83331         | 15.0          | 680    | 40590         | 0.0           | 810    | 3022          | 0.0           | 940    | 2464          | 0.0           |
| 425    | 25176         | 3.9           | 555    | 89120         | 12.0          | 685    | 35691         | 0.0           | 815    | 3471          | 0.0           | 945    | 2794          | 0.0           |
| 430    | 38151         | 8.1           | 560    | 94613         | 9.3           | 690    | 31631         | 0.0           | 820    | 2749          | 0.0           | 950    | 3090          | 0.0           |
| 435    | 49673         | 13.3          | 565    | 99818         | 7.0           | 695    | 27437         | 0.0           | 825    | 2729          | 0.0           | 955    | 1866          | 0.0           |
| 440    | 57273         | 19.1          | 570    | 106526        | 5.2           | 700    | 24589         | 0.0           | 830    | 2282          | 0.0           | 960    | 3110          | 0.0           |
| 445    | 54802         | 21.6          | 575    | 111610        | 3.7           | 705    | 21832         | 0.0           | 835    | 3140          | 0.0           | 965    | 3880          | 0.0           |
| 450    | 39184         | 18.1          | 580    | 117163        | 2.6           | 710    | 19500         | 0.0           | 840    | 2365          | 0.0           | 970    | 3243          | 0.0           |
| 455    | 22506         | 11.8          | 585    | 122201        | 1.8           | 715    | 17870         | 0.0           | 845    | 3024          | 0.0           | 975    | 2014          | 0.0           |
| 460    | 13692         | 8.1           | 590    | 125662        | 1.2           | 720    | 15924         | 0.0           | 850    | 2510          | 0.0           | 980    | 1688          | 0.0           |
| 465    | 9446          | 6.2           | 595    | 127415        | 0.8           | 725    | 14268         | 0.0           | 855    | 2739          | 0.0           | 985    | 2827          | 0.0           |
| 470    | 6698          | 4.8           | 600    | 129155        | 0.5           | 730    | 12438         | 0.0           | 860    | 3515          | 0.0           | 990    | 4172          | 0.0           |
| 475    | 5328          | 4.1           | 605    | 128057        | 0.4           | 735    | 11255         | 0.0           | 865    | 3600          | 0.0           | 995    | 3177          | 0.0           |
| 480    | 5081          | 4.1           | 610    | 126031        | 0.2           | 740    | 9951          | 0.0           | 870    | 3609          | 0.0           | 1000   | 3241          | 0.0           |
| 485    | 5579          | 4.6           | 615    | 123059        | 0.1           | 745    | 8870          | 0.0           | 875    | 3208          | 0.0           |        |               |               |



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Melanopic Flux vs. Wavelength



Melanopic Lumens: 2145.7 M/P: 0.35

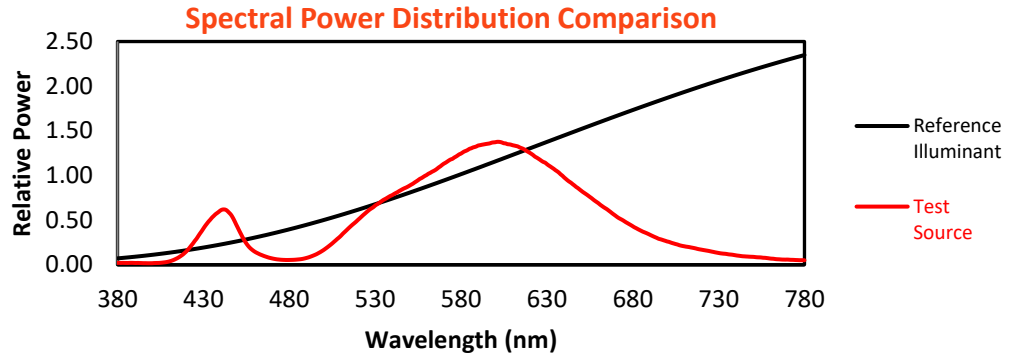
| $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) |
|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|
| 360            | 2044                              | 0.0                         | 490            | 7179                              | 11.1                        | 620            | 118034                            | 1.5                         | 750            | 8362                              | 0.0                         | 880            | 3128                              | 0.0                         |
| 365            | 2016                              | 0.0                         | 495            | 10476                             | 16.9                        | 625            | 111884                            | 0.9                         | 755            | 7635                              | 0.0                         | 885            | 3110                              | 0.0                         |
| 370            | 2020                              | 0.0                         | 500            | 15549                             | 26.0                        | 630            | 106119                            | 0.6                         | 760            | 6582                              | 0.0                         | 890            | 2632                              | 0.0                         |
| 375            | 2137                              | 0.0                         | 505            | 22477                             | 38.2                        | 635            | 99706                             | 0.4                         | 765            | 5777                              | 0.0                         | 895            | 2709                              | 0.0                         |
| 380            | 2046                              | 0.0                         | 510            | 30417                             | 51.6                        | 640            | 92142                             | 0.2                         | 770            | 5474                              | 0.0                         | 900            | 2016                              | 0.0                         |
| 385            | 1925                              | 0.0                         | 515            | 39274                             | 65.1                        | 645            | 84987                             | 0.1                         | 775            | 4977                              | 0.0                         | 905            | 1748                              | 0.0                         |
| 390            | 1893                              | 0.0                         | 520            | 47282                             | 75.2                        | 650            | 78016                             | 0.1                         | 780            | 4723                              | 0.0                         | 910            | 2046                              | 0.0                         |
| 395            | 1695                              | 0.0                         | 525            | 55413                             | 82.9                        | 655            | 71541                             | 0.1                         | 785            | 4219                              | 0.0                         | 915            | 1844                              | 0.0                         |
| 400            | 1633                              | 0.0                         | 530            | 62377                             | 86.0                        | 660            | 64863                             | 0.0                         | 790            | 3969                              | 0.0                         | 920            | 2734                              | 0.0                         |
| 405            | 2065                              | 0.1                         | 535            | 68520                             | 85.4                        | 665            | 58485                             | 0.0                         | 795            | 4122                              | 0.0                         | 925            | 2307                              | 0.0                         |
| 410            | 3449                              | 0.2                         | 540            | 73435                             | 81.1                        | 670            | 51641                             | 0.0                         | 800            | 2864                              | 0.0                         | 930            | 2039                              | 0.0                         |
| 415            | 7117                              | 0.7                         | 545            | 78677                             | 75.4                        | 675            | 46030                             | 0.0                         | 805            | 3151                              | 0.0                         | 935            | 1784                              | 0.0                         |
| 420            | 13992                             | 2.3                         | 550            | 83331                             | 68.1                        | 680            | 40590                             | 0.0                         | 810            | 3022                              | 0.0                         | 940            | 2464                              | 0.0                         |
| 425            | 25176                             | 6.2                         | 555            | 89120                             | 60.9                        | 685            | 35691                             | 0.0                         | 815            | 3471                              | 0.0                         | 945            | 2794                              | 0.0                         |
| 430            | 38151                             | 13.0                        | 560            | 94613                             | 52.9                        | 690            | 31631                             | 0.0                         | 820            | 2749                              | 0.0                         | 950            | 3090                              | 0.0                         |
| 435            | 49673                             | 22.2                        | 565            | 99818                             | 44.8                        | 695            | 27437                             | 0.0                         | 825            | 2729                              | 0.0                         | 955            | 1866                              | 0.0                         |
| 440            | 57273                             | 32.0                        | 570            | 106526                            | 37.6                        | 700            | 24589                             | 0.0                         | 830            | 2282                              | 0.0                         | 960            | 3110                              | 0.0                         |
| 445            | 54802                             | 36.7                        | 575            | 111610                            | 30.4                        | 705            | 21832                             | 0.0                         | 835            | 3140                              | 0.0                         | 965            | 3880                              | 0.0                         |
| 450            | 39184                             | 30.4                        | 580            | 117163                            | 24.1                        | 710            | 19500                             | 0.0                         | 840            | 2365                              | 0.0                         | 970            | 3243                              | 0.0                         |
| 455            | 22506                             | 19.7                        | 585            | 122201                            | 18.7                        | 715            | 17870                             | 0.0                         | 845            | 3024                              | 0.0                         | 975            | 2014                              | 0.0                         |
| 460            | 13692                             | 13.2                        | 590            | 125662                            | 14.0                        | 720            | 15924                             | 0.0                         | 850            | 2510                              | 0.0                         | 980            | 1688                              | 0.0                         |
| 465            | 9446                              | 10.0                        | 595            | 127415                            | 10.2                        | 725            | 14268                             | 0.0                         | 855            | 2739                              | 0.0                         | 985            | 2827                              | 0.0                         |
| 470            | 6698                              | 7.7                         | 600            | 129155                            | 7.3                         | 730            | 12438                             | 0.0                         | 860            | 3515                              | 0.0                         | 990            | 4172                              | 0.0                         |
| 475            | 5328                              | 6.7                         | 605            | 128057                            | 5.0                         | 735            | 11255                             | 0.0                         | 865            | 3600                              | 0.0                         | 995            | 3177                              | 0.0                         |
| 480            | 5081                              | 6.9                         | 610            | 126031                            | 3.4                         | 740            | 9951                              | 0.0                         | 870            | 3609                              | 0.0                         | 1000           | 3241                              | 0.0                         |
| 485            | 5579                              | 8.1                         | 615            | 123059                            | 2.3                         | 745            | 8870                              | 0.0                         | 875            | 3208                              | 0.0                         |                |                                   |                             |

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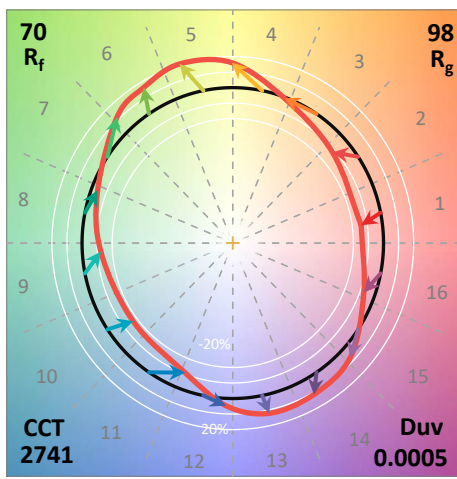
TM-30-18

**Summary**

$R_f = 69.9$   
 $R_g = 98.3$   
 $CIE R_a = 71.5$   
 $R_9 = -16.1$



**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 54 | CES51 = 77 | CES76 = 48 |
| CES02 = 63 | CES27 = 74 | CES52 = 80 | CES77 = 75 |
| CES03 = 31 | CES28 = 80 | CES53 = 66 | CES78 = 56 |
| CES04 = 71 | CES29 = 44 | CES54 = 77 | CES79 = 81 |
| CES05 = 50 | CES30 = 46 | CES55 = 74 | CES80 = 80 |
| CES06 = 52 | CES31 = 50 | CES56 = 63 | CES81 = 73 |
| CES07 = 42 | CES32 = 49 | CES57 = 60 | CES82 = 91 |
| CES08 = 41 | CES33 = 53 | CES58 = 63 | CES83 = 84 |
| CES09 = 29 | CES34 = 66 | CES59 = 85 | CES84 = 90 |
| CES10 = 77 | CES35 = 82 | CES60 = 89 | CES85 = 87 |
| CES11 = 60 | CES36 = 78 | CES61 = 85 | CES86 = 65 |
| CES12 = 66 | CES37 = 75 | CES62 = 69 | CES87 = 78 |
| CES13 = 43 | CES38 = 53 | CES63 = 68 | CES88 = 73 |
| CES14 = 74 | CES39 = 91 | CES64 = 68 | CES89 = 68 |
| CES15 = 71 | CES40 = 85 | CES65 = 65 | CES90 = 68 |
| CES16 = 48 | CES41 = 76 | CES66 = 62 | CES91 = 91 |
| CES17 = 50 | CES42 = 76 | CES67 = 60 | CES92 = 71 |
| CES18 = 57 | CES43 = 65 | CES68 = 68 | CES93 = 82 |
| CES19 = 73 | CES44 = 98 | CES69 = 77 | CES94 = 57 |
| CES20 = 67 | CES45 = 75 | CES70 = 60 | CES95 = 78 |
| CES21 = 88 | CES46 = 70 | CES71 = 57 | CES96 = 80 |
| CES22 = 80 | CES47 = 63 | CES72 = 86 | CES97 = 79 |
| CES23 = 92 | CES48 = 51 | CES73 = 52 | CES98 = 71 |
| CES24 = 91 | CES49 = 68 | CES74 = 90 | CES99 = 64 |
| CES25 = 73 | CES50 = 77 | CES75 = 58 |            |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)