

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

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Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: STREETWORKS

Report Number: P1462373

Luminaire Tested: PRV-P-30-727-U-5MQ

Issue Date: 06/10/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1462373  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 6/11/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: PRV-P-30-727-U-5MQ  
Description: PREVAIL PETITE DISCRETE LED 1 SQUARE 30W 70CRI 2700K FIXTURE w/ TYPE V SQUARE MEDIUM DISTRIBUTION OPTIC  
Light Source: (10) 2700K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4126.7 lumens  
Efficiency: N/A  
Efficacy: 125.4 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B2 - U0 - G1

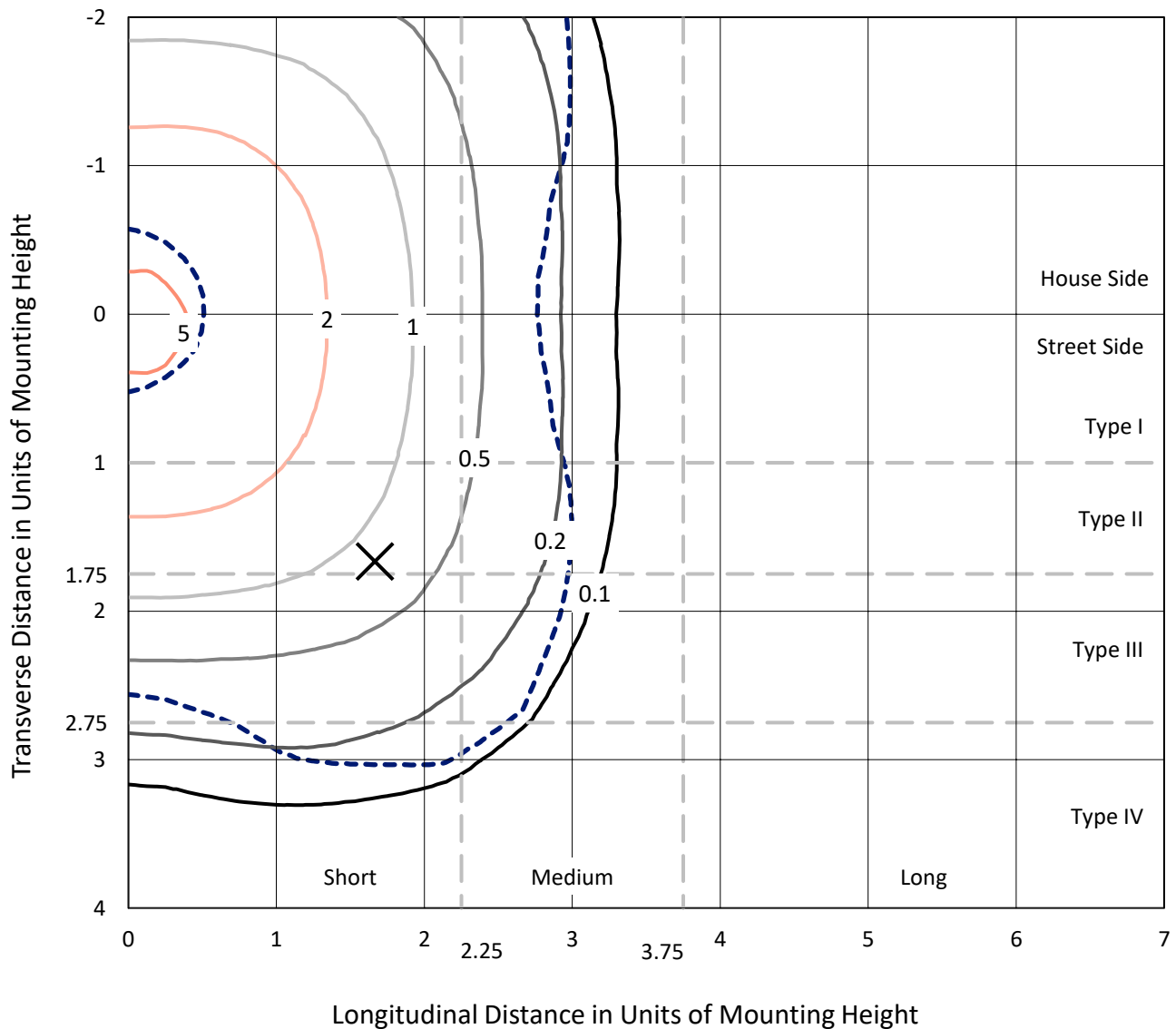
Input Watts (W): 32.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi): 10.0%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 --- 1/2 Max cd

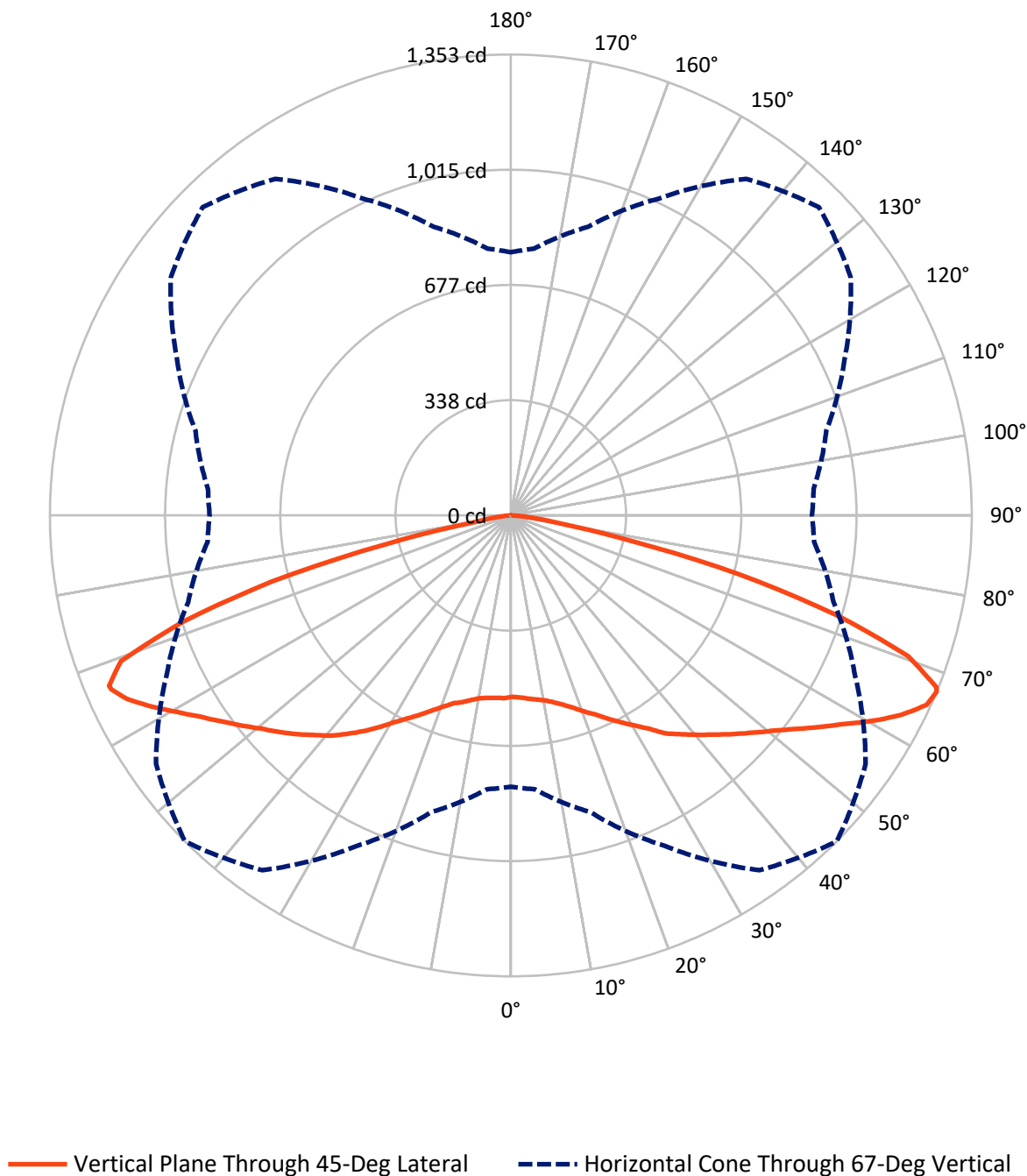


Based on 10 foot mounting height. Maximum calculated value = 5.3 fc  
 Type V - Short - N/A

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## Luminous Intensity Polar Plot



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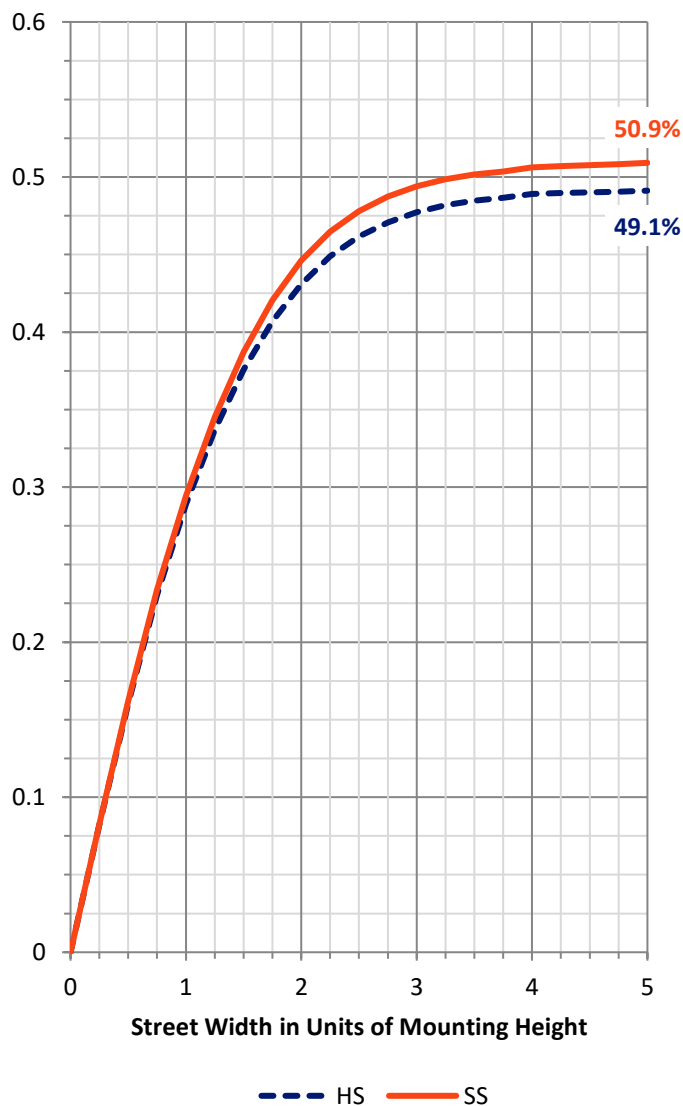
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2024.7   | 0.0    | 2024.7 |
|                    | % Fixture | 49.1     | 0.0    | 49.1   |
| <b>Street Side</b> | Lumens    | 2102.1   | 0.0    | 2102.1 |
|                    | % Fixture | 50.9     | 0.0    | 50.9   |
| <b>Total</b>       | Lumens    | 4126.7   | 0.0    | 4126.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 51.6   | 1.2       |
| 10°-20°   | 163.2  | 4.0       |
| 20°-30°   | 302.4  | 7.3       |
| 30°-40°   | 478.1  | 11.6      |
| 40°-50°   | 669.7  | 16.2      |
| 50°-60°   | 907.2  | 22.0      |
| 60°-70°   | 1053.9 | 25.5      |
| 70°-80°   | 473.1  | 11.5      |
| 80°-90°   | 27.5   | 0.7       |
| 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°    | 4126.7 | 100.0     |
| 0°-180°   | 4126.7 | 100.0     |

**Coefficient of Utilization**



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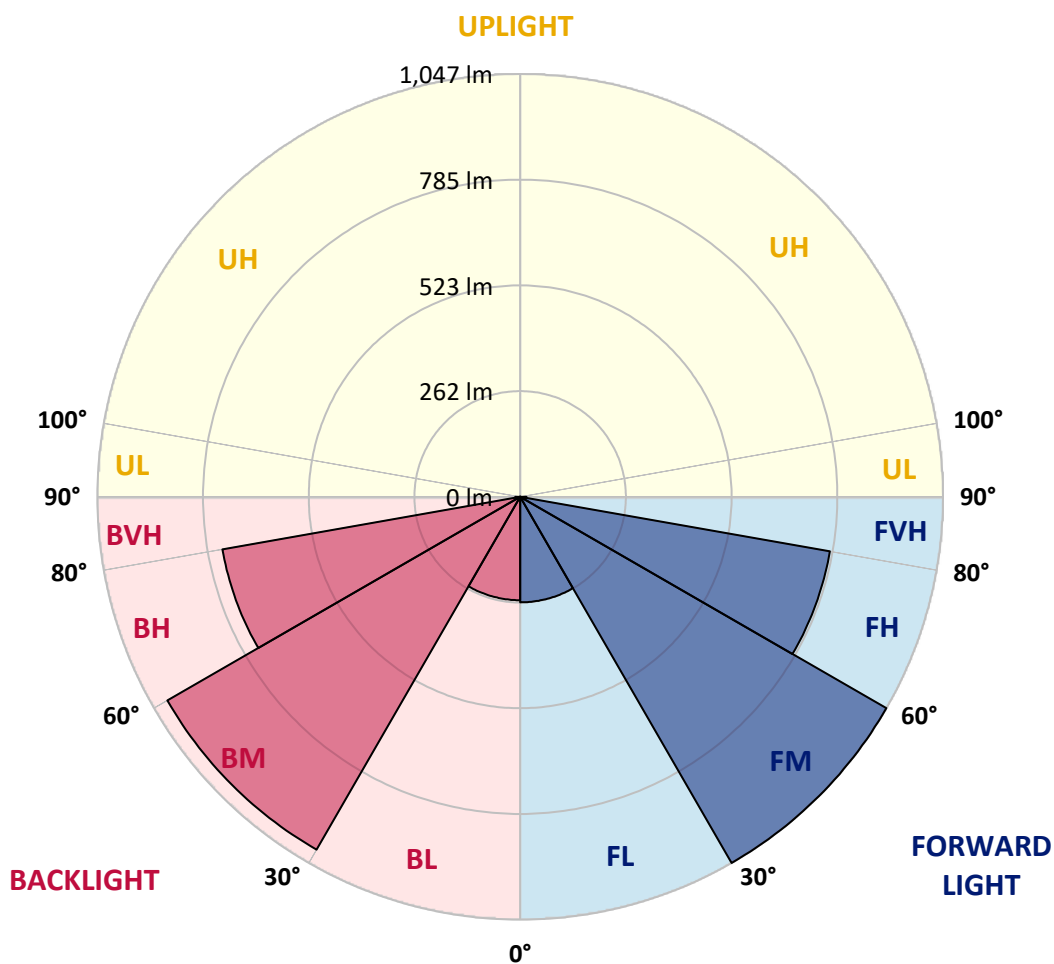
CATALOG NUMBER: PRV-P-30-727-U-5MQ

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 261.3  | 6.3       |                         |      |         |
| FM   | (30°-60°)   | 1046.6 | 25.4      |                         |      |         |
| FH   | (60°-80°)   | 778.5  | 18.9      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 15.7   | 0.4       |                         |      | G1/100  |
| BL   | (0°-30°)    | 255.9  | 6.2       | B1/500                  |      |         |
| BM   | (30°-60°)   | 1008.4 | 24.4      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 748.5  | 18.1      | B2/1000                 |      | G1/1800 |
| BVH  | (80°-90°)   | 11.8   | 0.3       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G1**

Type V Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 532.7  | 532.7  | 532.7  | 532.7  | 532.7  | 532.7  | 532.7  | 532.7  | 532.7  | 532.7  | 532.7  |
| 2.5°  | 532.7  | 532.7  | 534.7  | 535.3  | 534.0  | 535.3  | 535.3  | 533.4  | 534.0  | 534.0  | 534.0  |
| 5°    | 536.0  | 536.6  | 537.9  | 539.9  | 539.2  | 540.5  | 538.6  | 536.6  | 537.3  | 536.6  | 536.0  |
| 7.5°  | 539.9  | 539.9  | 543.1  | 545.7  | 545.7  | 545.7  | 542.5  | 541.8  | 542.5  | 541.2  | 540.5  |
| 10°   | 548.9  | 549.6  | 552.8  | 552.8  | 552.8  | 552.2  | 550.9  | 548.9  | 549.6  | 549.6  | 548.3  |
| 12.5° | 560.6  | 560.6  | 564.5  | 564.5  | 565.2  | 563.2  | 562.6  | 561.3  | 561.3  | 560.6  | 560.6  |
| 15°   | 574.2  | 575.5  | 579.4  | 578.8  | 578.8  | 576.8  | 576.8  | 575.5  | 575.5  | 573.6  | 573.6  |
| 17.5° | 590.4  | 591.1  | 594.3  | 594.3  | 595.0  | 593.7  | 593.0  | 590.4  | 591.7  | 589.8  | 589.8  |
| 20°   | 609.2  | 611.2  | 613.8  | 613.8  | 614.4  | 614.4  | 611.8  | 608.6  | 609.9  | 609.9  | 607.9  |
| 22.5° | 629.3  | 631.3  | 635.8  | 636.4  | 636.4  | 635.1  | 632.6  | 628.0  | 629.3  | 630.6  | 629.3  |
| 25°   | 651.3  | 652.0  | 657.8  | 660.4  | 663.0  | 661.1  | 656.5  | 652.6  | 653.3  | 653.9  | 653.9  |
| 27.5° | 672.7  | 674.7  | 681.2  | 686.3  | 687.0  | 687.6  | 683.8  | 679.9  | 681.2  | 681.8  | 680.5  |
| 30°   | 696.7  | 700.0  | 707.1  | 712.9  | 714.9  | 715.5  | 712.3  | 709.0  | 707.7  | 707.1  | 707.1  |
| 32.5° | 724.6  | 725.2  | 733.0  | 740.8  | 747.9  | 747.3  | 743.4  | 738.8  | 735.6  | 734.3  | 734.3  |
| 35°   | 746.6  | 749.2  | 759.6  | 770.6  | 781.6  | 786.2  | 779.7  | 767.4  | 761.5  | 758.3  | 757.6  |
| 37.5° | 764.8  | 768.0  | 781.0  | 795.9  | 809.5  | 815.3  | 808.8  | 793.9  | 784.2  | 779.7  | 778.4  |
| 40°   | 785.5  | 788.1  | 801.7  | 821.2  | 839.3  | 847.1  | 836.7  | 817.9  | 805.6  | 799.8  | 798.5  |
| 42.5° | 803.0  | 805.6  | 822.4  | 847.1  | 869.8  | 879.5  | 867.2  | 845.1  | 827.6  | 817.9  | 817.9  |
| 45°   | 824.4  | 825.7  | 845.8  | 876.2  | 906.1  | 915.8  | 900.9  | 873.0  | 853.6  | 841.2  | 839.9  |
| 47.5° | 858.1  | 859.4  | 882.1  | 909.3  | 943.0  | 953.4  | 939.8  | 904.8  | 880.8  | 867.8  | 867.2  |
| 50°   | 901.5  | 904.8  | 929.4  | 957.9  | 986.4  | 994.2  | 983.8  | 947.5  | 915.8  | 898.3  | 896.3  |
| 52.5° | 944.9  | 950.1  | 978.0  | 1011.0 | 1035.7 | 1041.5 | 1031.8 | 991.0  | 953.4  | 930.0  | 928.1  |
| 55°   | 990.3  | 995.5  | 1025.3 | 1068.7 | 1092.7 | 1097.2 | 1079.7 | 1035.7 | 992.9  | 964.4  | 960.5  |
| 57.5° | 1016.9 | 1022.1 | 1064.2 | 1121.2 | 1152.3 | 1154.9 | 1134.8 | 1079.7 | 1033.1 | 996.1  | 991.0  |
| 60°   | 1016.2 | 1022.7 | 1079.7 | 1159.5 | 1215.9 | 1224.3 | 1189.9 | 1127.1 | 1066.1 | 1021.4 | 1012.3 |
| 62.5° | 1001.3 | 1010.4 | 1068.7 | 1177.6 | 1276.1 | 1288.4 | 1247.0 | 1162.7 | 1081.7 | 1027.9 | 1019.5 |
| 65°   | 922.9  | 932.6  | 1009.8 | 1150.4 | 1299.5 | 1341.6 | 1286.5 | 1160.8 | 1049.9 | 976.7  | 970.9  |
| 67°   | 796.5  | 806.9  | 901.5  | 1070.7 | 1271.6 | 1353.3 | 1271.6 | 1115.4 | 980.6  | 893.7  | 884.0  |
| 67.5° | 764.8  | 777.1  | 874.9  | 1048.6 | 1256.7 | 1347.4 | 1260.6 | 1091.4 | 958.6  | 871.7  | 863.9  |
| 70°   | 572.9  | 598.9  | 719.4  | 909.9  | 1126.4 | 1237.2 | 1142.6 | 964.4  | 801.1  | 705.1  | 684.4  |
| 72.5° | 364.9  | 388.9  | 578.1  | 775.8  | 933.3  | 998.7  | 943.6  | 762.2  | 576.8  | 473.8  | 463.4  |
| 75°   | 104.3  | 123.8  | 296.2  | 472.5  | 663.7  | 693.5  | 570.3  | 436.8  | 302.0  | 241.7  | 237.2  |
| 77.5° | 53.8   | 54.4   | 90.7   | 195.1  | 320.8  | 361.0  | 228.8  | 162.0  | 127.7  | 112.8  | 115.4  |
| 80°   | 25.9   | 26.6   | 38.9   | 97.9   | 137.4  | 154.9  | 110.8  | 86.8   | 88.8   | 81.0   | 76.5   |
| 82.5° | 13.6   | 14.3   | 20.1   | 42.8   | 62.9   | 79.7   | 79.7   | 60.9   | 59.6   | 56.4   | 50.6   |
| 85°   | 3.9    | 3.2    | 5.8    | 9.1    | 17.5   | 29.8   | 21.4   | 22.0   | 20.7   | 17.5   | 16.9   |
| 87.5° | 0.6    | 0.6    | 0.6    | 0.6    | 1.3    | 1.3    | 0.6    | 0.6    | 0.6    | 0.6    | 0.6    |
| 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):**

|       | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°  | 175°  | 180°  |
|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|
| 0°    | 532.7  | 532.7  | 532.7  | 532.7  | 532.7  | 532.7  | 532.7  | 532.7 | 532.7 | 532.7 |
| 2.5°  | 534.0  | 534.0  | 534.0  | 534.7  | 536.6  | 532.7  | 535.3  | 533.4 | 531.4 | 532.1 |
| 5°    | 537.3  | 535.3  | 534.7  | 536.6  | 537.3  | 535.3  | 537.3  | 534.7 | 534.7 | 532.1 |
| 7.5°  | 539.9  | 539.9  | 537.3  | 539.9  | 539.9  | 538.6  | 537.9  | 537.3 | 537.3 | 531.4 |
| 10°   | 548.3  | 546.4  | 543.1  | 543.1  | 543.8  | 543.8  | 543.1  | 541.8 | 539.9 | 537.3 |
| 12.5° | 560.0  | 557.4  | 553.5  | 553.5  | 553.5  | 555.4  | 553.5  | 551.5 | 548.3 | 547.7 |
| 15°   | 574.9  | 570.3  | 566.4  | 565.8  | 565.8  | 565.2  | 565.2  | 562.6 | 559.3 | 558.0 |
| 17.5° | 589.8  | 583.9  | 578.8  | 580.1  | 576.8  | 576.8  | 574.2  | 576.2 | 572.3 | 572.9 |
| 20°   | 606.6  | 602.1  | 597.6  | 598.2  | 595.6  | 596.9  | 593.0  | 592.4 | 588.5 | 588.5 |
| 22.5° | 627.4  | 623.5  | 618.3  | 619.6  | 617.6  | 617.6  | 613.1  | 609.9 | 606.0 | 603.4 |
| 25°   | 652.6  | 646.8  | 642.9  | 642.9  | 642.9  | 639.7  | 636.4  | 633.2 | 628.7 | 626.7 |
| 27.5° | 680.5  | 675.3  | 672.1  | 671.4  | 668.8  | 664.3  | 660.4  | 660.4 | 653.3 | 650.1 |
| 30°   | 707.1  | 704.5  | 702.5  | 700.0  | 698.0  | 697.4  | 690.2  | 683.8 | 679.2 | 676.0 |
| 32.5° | 731.7  | 731.1  | 731.7  | 732.4  | 733.7  | 727.8  | 720.0  | 712.9 | 702.5 | 704.5 |
| 35°   | 758.3  | 757.0  | 759.6  | 766.7  | 769.3  | 763.5  | 751.8  | 736.9 | 727.8 | 725.2 |
| 37.5° | 779.0  | 780.3  | 788.7  | 799.1  | 803.7  | 794.6  | 775.1  | 755.7 | 742.7 | 740.8 |
| 40°   | 799.1  | 803.7  | 814.0  | 829.6  | 838.0  | 824.4  | 797.8  | 773.8 | 755.0 | 753.1 |
| 42.5° | 820.5  | 824.4  | 838.0  | 859.4  | 867.2  | 852.3  | 820.5  | 788.7 | 765.4 | 760.2 |
| 45°   | 840.6  | 845.8  | 864.6  | 891.8  | 900.2  | 882.1  | 841.2  | 800.4 | 773.2 | 768.7 |
| 47.5° | 865.9  | 874.3  | 895.7  | 925.5  | 932.0  | 912.5  | 866.5  | 819.9 | 788.1 | 783.6 |
| 50°   | 896.3  | 904.1  | 930.7  | 961.1  | 963.7  | 943.6  | 900.9  | 852.3 | 816.0 | 808.8 |
| 52.5° | 927.4  | 940.4  | 970.9  | 998.1  | 1002.0 | 980.6  | 938.5  | 889.2 | 847.1 | 843.2 |
| 55°   | 959.8  | 972.8  | 1008.5 | 1037.0 | 1041.5 | 1025.3 | 986.4  | 932.6 | 886.0 | 877.5 |
| 57.5° | 991.0  | 1003.9 | 1041.5 | 1079.1 | 1085.6 | 1077.2 | 1031.1 | 967.6 | 919.0 | 912.5 |
| 60°   | 1010.4 | 1029.2 | 1073.9 | 1120.6 | 1136.8 | 1125.8 | 1064.2 | 987.7 | 933.9 | 924.9 |
| 62.5° | 1020.8 | 1046.7 | 1103.7 | 1165.9 | 1195.1 | 1173.7 | 1078.5 | 986.4 | 922.9 | 914.5 |
| 65°   | 974.8  | 1029.8 | 1119.3 | 1211.3 | 1250.2 | 1208.1 | 1073.3 | 956.6 | 889.9 | 875.6 |
| 67°   | 892.4  | 958.6  | 1081.0 | 1218.4 | 1279.4 | 1206.1 | 1026.0 | 876.9 | 786.2 | 772.5 |
| 67.5° | 871.1  | 938.5  | 1066.1 | 1211.3 | 1281.3 | 1202.2 | 1005.2 | 851.0 | 753.8 | 743.4 |
| 70°   | 691.5  | 780.3  | 939.8  | 1113.5 | 1222.3 | 1114.7 | 878.2  | 695.4 | 574.9 | 544.4 |
| 72.5° | 487.4  | 574.9  | 748.6  | 926.1  | 1013.0 | 942.3  | 747.9  | 558.7 | 371.4 | 343.5 |
| 75°   | 246.3  | 305.9  | 444.0  | 610.5  | 727.8  | 692.8  | 469.9  | 252.8 | 79.1  | 62.2  |
| 77.5° | 108.9  | 117.3  | 171.7  | 261.2  | 378.5  | 294.9  | 153.6  | 56.4  | 25.3  | 22.7  |
| 80°   | 75.8   | 84.3   | 83.6   | 95.3   | 103.0  | 90.1   | 60.9   | 24.0  | 8.4   | 3.2   |
| 82.5° | 53.1   | 59.6   | 55.7   | 53.1   | 51.2   | 41.5   | 27.2   | 9.7   | 1.9   | 0.0   |
| 85°   | 17.5   | 22.0   | 18.8   | 20.7   | 21.4   | 11.0   | 2.6    | 0.6   | 0.0   | 0.0   |
| 87.5° | 0.6    | 0.6    | 0.6    | 0.6    | 0.6    | 0.6    | 0.6    | 0.6   | 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   |

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP2-2501-321-3

Test Date: 04/09/2025

Luminaire Tested: GKO-PB1E-727-U-T4W

Data in this report applies to families of products including GKO-PB1E-727-U-T4W

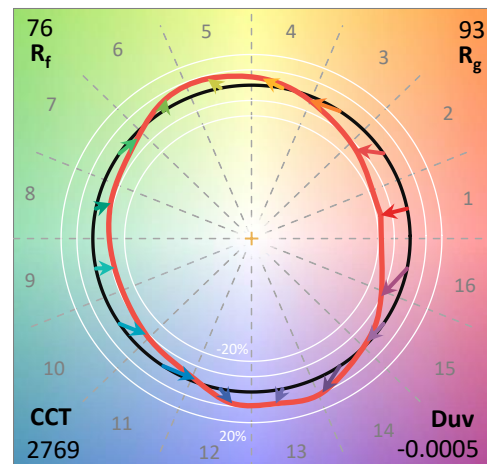
### Test Information

Test Method: LM-79-2019  
 Report Number: SP2-2501-321-3  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP2 - 165CM SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 04/10/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GKO-PB1E-727-U-T4W**  
 Description: Gekko Wedge Wall Pack Fixture 1 SQ w/ T4W distribution

### Spectral Parameters

CCT (K): 2769  
 CIE  $u'$ : 0.2596  
 CIE  $v'$ : 0.5253  
 Duv: -0.0005  
 CIE x: 0.4535  
 CIE y: 0.4078  
 CIE z: 0.1387  
 Peak Wavelength (nm): 597  
 Dominant Wavelength (nm): 584  
 Purity: 58.54014  
 R<sub>f</sub>: 75.7  
 R<sub>g</sub>: 93.2

CRI (Ra): 71.7  
 R1: 68.0  
 R2: 84.0  
 R3: 94.6  
 R4: 65.9  
 R5: 67.3  
 R6: 78.7  
 R7: 75.2  
 R8: 39.8  
 R9: -34.5  
 R10: 64.3  
 R11: 60.9  
 R12: 54.4  
 R13: 71.2  
 R14: 97.6  
 R15: 59.5



### Test Conditions

Stabilization Time: 36M  
 Operation Time: 1H 36M  
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP2-2501-321-3

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN2187                | 1/6/2025         | 7/6/2025             |
| Power Meter                    | INXT2011002           | 1/21/2025        | 1/21/2026            |
| AC Power Source                | IN0458                | 10/22/2024       | 10/22/2025           |
| DC Power Source                | IN0212                | 10/22/2024       | 10/22/2025           |
| Sphere Thermometer             | IN4036B               | 10/22/2024       | 10/22/2025           |
| Room Thermometer               | IN0046                | 10/22/2024       | 10/22/2025           |



REPORT NUMBER: SP2-2501-321-3

### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 114                                  | NR                             | 620               | 844                                  | NR                             | 750               | 22                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 138                                  | NR                             | 625               | 785                                  | NR                             | 755               | 19                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 176                                  | NR                             | 630               | 722                                  | NR                             | 760               | 16                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 222                                  | NR                             | 635               | 655                                  | NR                             | 765               | 14                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 268                                  | NR                             | 640               | 591                                  | NR                             | 770               | 12                                   | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 311                                  | NR                             | 645               | 527                                  | NR                             | 775               | 10                                   | NR                             | 905               | 0                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 348                                  | NR                             | 650               | 467                                  | NR                             | 780               | 9                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 0                                    | NR                             | 525               | 381                                  | NR                             | 655               | 412                                  | NR                             | 785               | 8                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 2                                    | NR                             | 530               | 410                                  | NR                             | 660               | 360                                  | NR                             | 790               | 7                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 4                                    | NR                             | 535               | 438                                  | NR                             | 665               | 314                                  | NR                             | 795               | 6                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 7                                    | NR                             | 540               | 469                                  | NR                             | 670               | 272                                  | NR                             | 800               | 5                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 13                                   | NR                             | 545               | 503                                  | NR                             | 675               | 236                                  | NR                             | 805               | 4                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 25                                   | NR                             | 550               | 544                                  | NR                             | 680               | 203                                  | NR                             | 810               | 4                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 46                                   | NR                             | 555               | 594                                  | NR                             | 685               | 175                                  | NR                             | 815               | 3                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 79                                   | NR                             | 560               | 652                                  | NR                             | 690               | 149                                  | NR                             | 820               | 3                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 128                                  | NR                             | 565               | 714                                  | NR                             | 695               | 128                                  | NR                             | 825               | 2                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 196                                  | NR                             | 570               | 783                                  | NR                             | 700               | 109                                  | NR                             | 830               | 2                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 299                                  | NR                             | 575               | 847                                  | NR                             | 705               | 93                                   | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 433                                  | NR                             | 580               | 906                                  | NR                             | 710               | 80                                   | NR                             | 840               | 2                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 433                                  | NR                             | 585               | 953                                  | NR                             | 715               | 68                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 293                                  | NR                             | 590               | 985                                  | NR                             | 720               | 58                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 215                                  | NR                             | 595               | 998                                  | NR                             | 725               | 50                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 173                                  | NR                             | 600               | 997                                  | NR                             | 730               | 42                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 127                                  | NR                             | 605               | 978                                  | NR                             | 735               | 36                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 104                                  | NR                             | 610               | 945                                  | NR                             | 740               | 30                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 104                                  | NR                             | 615               | 902                                  | NR                             | 745               | 26                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

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### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.14

| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 114                         | NR               | 620       | 844                         | NR               | 750       | 22                          | NR               | 880       | 1                           | NR               |
| 365       | 0                           | NR               | 495       | 138                         | NR               | 625       | 785                         | NR               | 755       | 19                          | NR               | 885       | 1                           | NR               |
| 370       | 0                           | NR               | 500       | 176                         | NR               | 630       | 722                         | NR               | 760       | 16                          | NR               | 890       | 1                           | NR               |
| 375       | 0                           | NR               | 505       | 222                         | NR               | 635       | 655                         | NR               | 765       | 14                          | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 268                         | NR               | 640       | 591                         | NR               | 770       | 12                          | NR               | 900       | 0                           | NR               |
| 385       | 0                           | NR               | 515       | 311                         | NR               | 645       | 527                         | NR               | 775       | 10                          | NR               | 905       | 0                           | NR               |
| 390       | 0                           | NR               | 520       | 348                         | NR               | 650       | 467                         | NR               | 780       | 9                           | NR               | 910       | 0                           | NR               |
| 395       | 0                           | NR               | 525       | 381                         | NR               | 655       | 412                         | NR               | 785       | 8                           | NR               | 915       | 0                           | NR               |
| 400       | 2                           | NR               | 530       | 410                         | NR               | 660       | 360                         | NR               | 790       | 7                           | NR               | 920       | 0                           | NR               |
| 405       | 4                           | NR               | 535       | 438                         | NR               | 665       | 314                         | NR               | 795       | 6                           | NR               | 925       | 0                           | NR               |
| 410       | 7                           | NR               | 540       | 469                         | NR               | 670       | 272                         | NR               | 800       | 5                           | NR               | 930       | 0                           | NR               |
| 415       | 13                          | NR               | 545       | 503                         | NR               | 675       | 236                         | NR               | 805       | 4                           | NR               | 935       | 0                           | NR               |
| 420       | 25                          | NR               | 550       | 544                         | NR               | 680       | 203                         | NR               | 810       | 4                           | NR               | 940       | 0                           | NR               |
| 425       | 46                          | NR               | 555       | 594                         | NR               | 685       | 175                         | NR               | 815       | 3                           | NR               | 945       | 0                           | NR               |
| 430       | 79                          | NR               | 560       | 652                         | NR               | 690       | 149                         | NR               | 820       | 3                           | NR               | 950       | 0                           | NR               |
| 435       | 128                         | NR               | 565       | 714                         | NR               | 695       | 128                         | NR               | 825       | 2                           | NR               | 955       | 0                           | NR               |
| 440       | 196                         | NR               | 570       | 783                         | NR               | 700       | 109                         | NR               | 830       | 2                           | NR               | 960       | 0                           | NR               |
| 445       | 299                         | NR               | 575       | 847                         | NR               | 705       | 93                          | NR               | 835       | 2                           | NR               | 965       | 0                           | NR               |
| 450       | 433                         | NR               | 580       | 906                         | NR               | 710       | 80                          | NR               | 840       | 2                           | NR               | 970       | 0                           | NR               |
| 455       | 433                         | NR               | 585       | 953                         | NR               | 715       | 68                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 293                         | NR               | 590       | 985                         | NR               | 720       | 58                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 215                         | NR               | 595       | 998                         | NR               | 725       | 50                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 173                         | NR               | 600       | 997                         | NR               | 730       | 42                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 127                         | NR               | 605       | 978                         | NR               | 735       | 36                          | NR               | 865       | 1                           | NR               | 995       | 0                           | NR               |
| 480       | 104                         | NR               | 610       | 945                         | NR               | 740       | 30                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 104                         | NR               | 615       | 902                         | NR               | 745       | 26                          | NR               | 875       | 1                           | NR               |           |                             |                  |

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### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.08

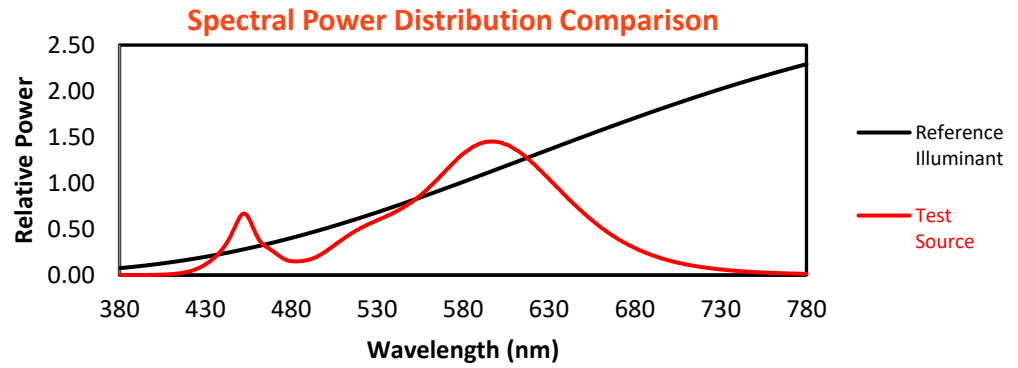
| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 114                         | NR               | 620       | 844                         | NR               | 750       | 22                          | NR               | 880       | 1                           | NR               |
| 365       | 0                           | NR               | 495       | 138                         | NR               | 625       | 785                         | NR               | 755       | 19                          | NR               | 885       | 1                           | NR               |
| 370       | 0                           | NR               | 500       | 176                         | NR               | 630       | 722                         | NR               | 760       | 16                          | NR               | 890       | 1                           | NR               |
| 375       | 0                           | NR               | 505       | 222                         | NR               | 635       | 655                         | NR               | 765       | 14                          | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 268                         | NR               | 640       | 591                         | NR               | 770       | 12                          | NR               | 900       | 0                           | NR               |
| 385       | 0                           | NR               | 515       | 311                         | NR               | 645       | 527                         | NR               | 775       | 10                          | NR               | 905       | 0                           | NR               |
| 390       | 0                           | NR               | 520       | 348                         | NR               | 650       | 467                         | NR               | 780       | 9                           | NR               | 910       | 0                           | NR               |
| 395       | 0                           | NR               | 525       | 381                         | NR               | 655       | 412                         | NR               | 785       | 8                           | NR               | 915       | 0                           | NR               |
| 400       | 2                           | NR               | 530       | 410                         | NR               | 660       | 360                         | NR               | 790       | 7                           | NR               | 920       | 0                           | NR               |
| 405       | 4                           | NR               | 535       | 438                         | NR               | 665       | 314                         | NR               | 795       | 6                           | NR               | 925       | 0                           | NR               |
| 410       | 7                           | NR               | 540       | 469                         | NR               | 670       | 272                         | NR               | 800       | 5                           | NR               | 930       | 0                           | NR               |
| 415       | 13                          | NR               | 545       | 503                         | NR               | 675       | 236                         | NR               | 805       | 4                           | NR               | 935       | 0                           | NR               |
| 420       | 25                          | NR               | 550       | 544                         | NR               | 680       | 203                         | NR               | 810       | 4                           | NR               | 940       | 0                           | NR               |
| 425       | 46                          | NR               | 555       | 594                         | NR               | 685       | 175                         | NR               | 815       | 3                           | NR               | 945       | 0                           | NR               |
| 430       | 79                          | NR               | 560       | 652                         | NR               | 690       | 149                         | NR               | 820       | 3                           | NR               | 950       | 0                           | NR               |
| 435       | 128                         | NR               | 565       | 714                         | NR               | 695       | 128                         | NR               | 825       | 2                           | NR               | 955       | 0                           | NR               |
| 440       | 196                         | NR               | 570       | 783                         | NR               | 700       | 109                         | NR               | 830       | 2                           | NR               | 960       | 0                           | NR               |
| 445       | 299                         | NR               | 575       | 847                         | NR               | 705       | 93                          | NR               | 835       | 2                           | NR               | 965       | 0                           | NR               |
| 450       | 433                         | NR               | 580       | 906                         | NR               | 710       | 80                          | NR               | 840       | 2                           | NR               | 970       | 0                           | NR               |
| 455       | 433                         | NR               | 585       | 953                         | NR               | 715       | 68                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 293                         | NR               | 590       | 985                         | NR               | 720       | 58                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 215                         | NR               | 595       | 998                         | NR               | 725       | 50                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 173                         | NR               | 600       | 997                         | NR               | 730       | 42                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 127                         | NR               | 605       | 978                         | NR               | 735       | 36                          | NR               | 865       | 1                           | NR               | 995       | 0                           | NR               |
| 480       | 104                         | NR               | 610       | 945                         | NR               | 740       | 30                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 104                         | NR               | 615       | 902                         | NR               | 745       | 26                          | NR               | 875       | 1                           | NR               |           |                             |                  |

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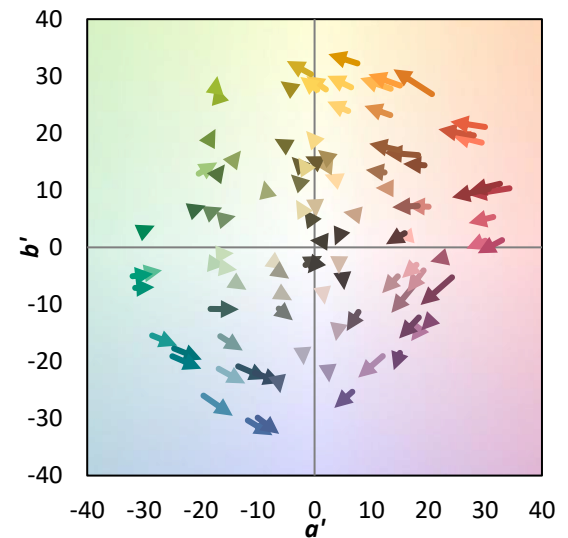
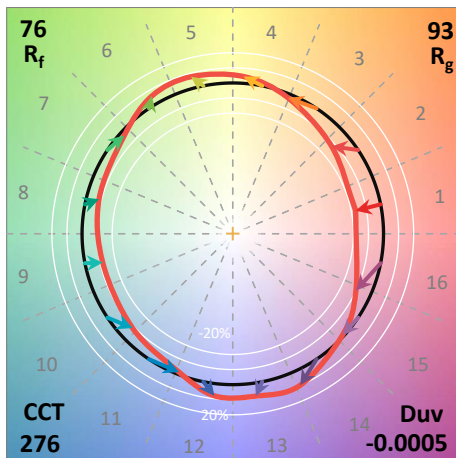
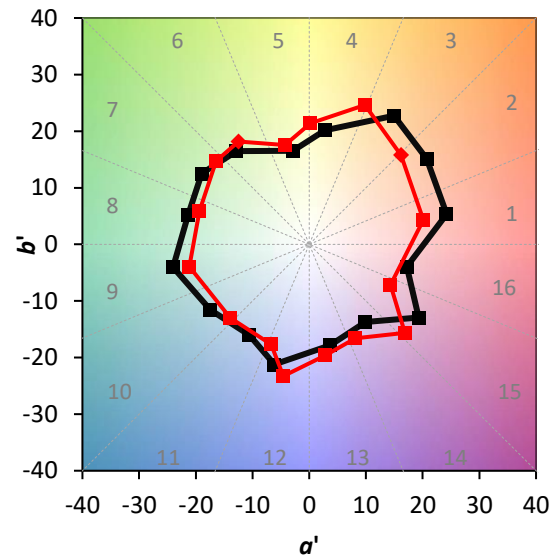
TM-30-18

### Summary

$R_f = 75.7$   
 $R_g = 93.2$   
 $CIE R_a = 71.7$   
 $R_g = -34.5$

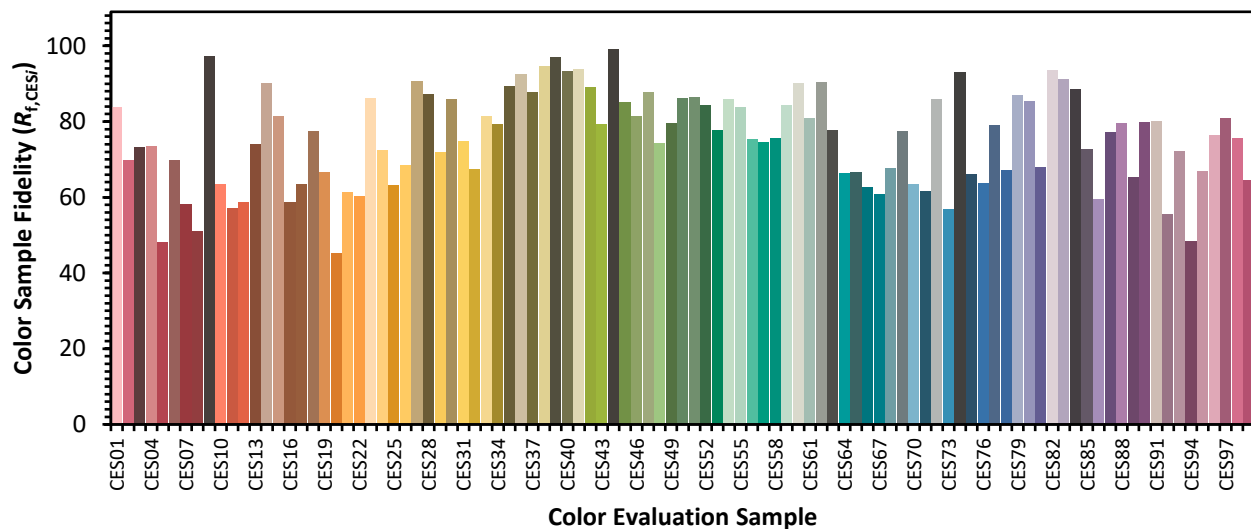


### Color Vector Graphics

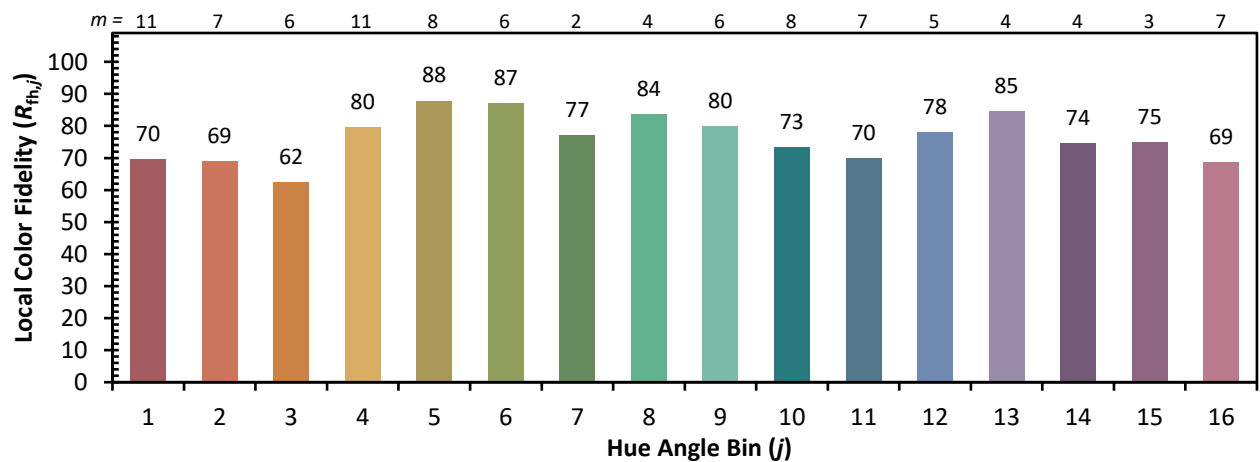


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

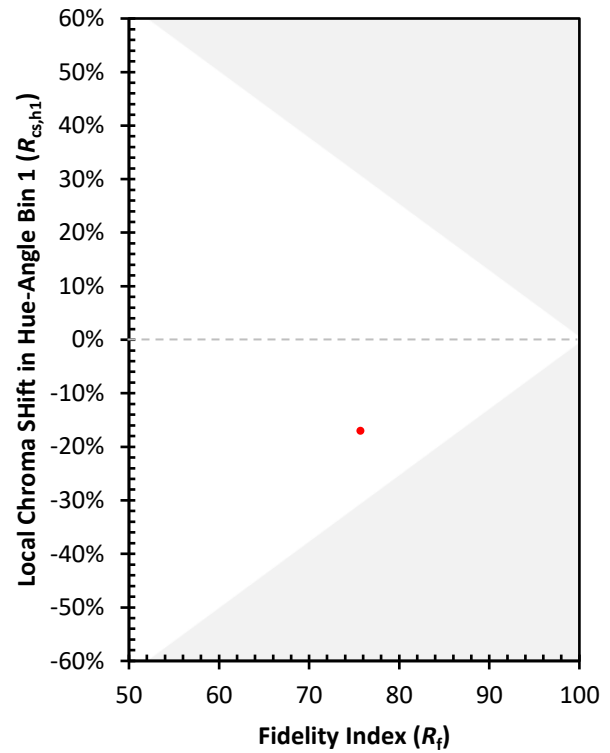
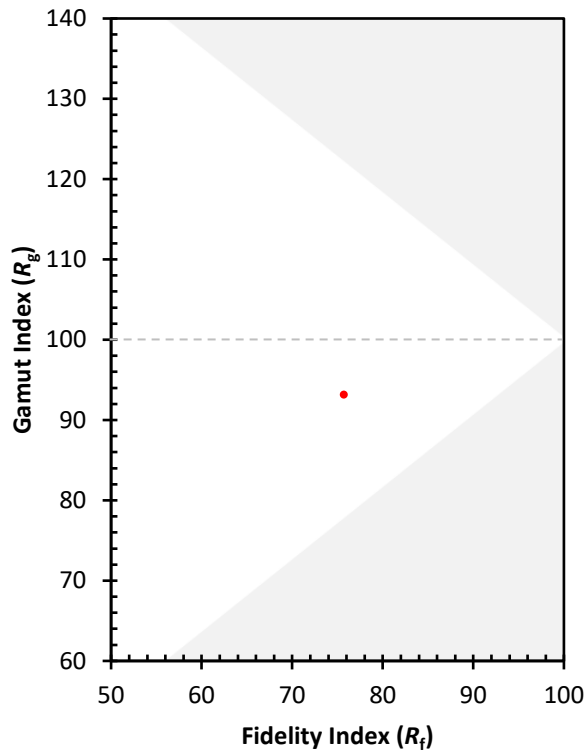
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 87 | CES76 = 64 |
| CES02 = 63 | CES27 = 91 | CES52 = 84 | CES77 = 79 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 67 |
| CES04 = 71 | CES29 = 72 | CES54 = 86 | CES79 = 87 |
| CES05 = 50 | CES30 = 86 | CES55 = 84 | CES80 = 85 |
| CES06 = 52 | CES31 = 75 | CES56 = 75 | CES81 = 68 |
| CES07 = 42 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 41 | CES33 = 81 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 79 | CES59 = 84 | CES84 = 89 |
| CES10 = 77 | CES35 = 89 | CES60 = 90 | CES85 = 73 |
| CES11 = 60 | CES36 = 92 | CES61 = 81 | CES86 = 59 |
| CES12 = 66 | CES37 = 88 | CES62 = 90 | CES87 = 77 |
| CES13 = 43 | CES38 = 95 | CES63 = 78 | CES88 = 79 |
| CES14 = 74 | CES39 = 97 | CES64 = 66 | CES89 = 65 |
| CES15 = 72 | CES40 = 93 | CES65 = 67 | CES90 = 80 |
| CES16 = 48 | CES41 = 94 | CES66 = 63 | CES91 = 80 |
| CES17 = 50 | CES42 = 89 | CES67 = 61 | CES92 = 55 |
| CES18 = 57 | CES43 = 79 | CES68 = 68 | CES93 = 72 |
| CES19 = 73 | CES44 = 99 | CES69 = 77 | CES94 = 48 |
| CES20 = 67 | CES45 = 85 | CES70 = 63 | CES95 = 67 |
| CES21 = 87 | CES46 = 81 | CES71 = 62 | CES96 = 76 |
| CES22 = 80 | CES47 = 88 | CES72 = 86 | CES97 = 81 |
| CES23 = 92 | CES48 = 74 | CES73 = 57 | CES98 = 76 |
| CES24 = 91 | CES49 = 80 | CES74 = 93 | CES99 = 64 |
| CES25 = 73 | CES50 = 86 | CES75 = 66 |            |



### Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)