

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: FAIL-SAFE

Report Number: P974057

Luminaire Tested: FLR2-24-20-L830-CP080

Issue Date: 3/13/2025

Test Information

Test Method: LM-79-2019
Report Number: P974057
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-281-3)
Test Lab: INNOVATION CENTER
Issue Date: 3/13/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FLR2-24-20-L830-CP080
Description: SHAPER SENSE CIRCLE

Light Source: FLR2-24-20-L830-CP080
Ballast/Driver: -

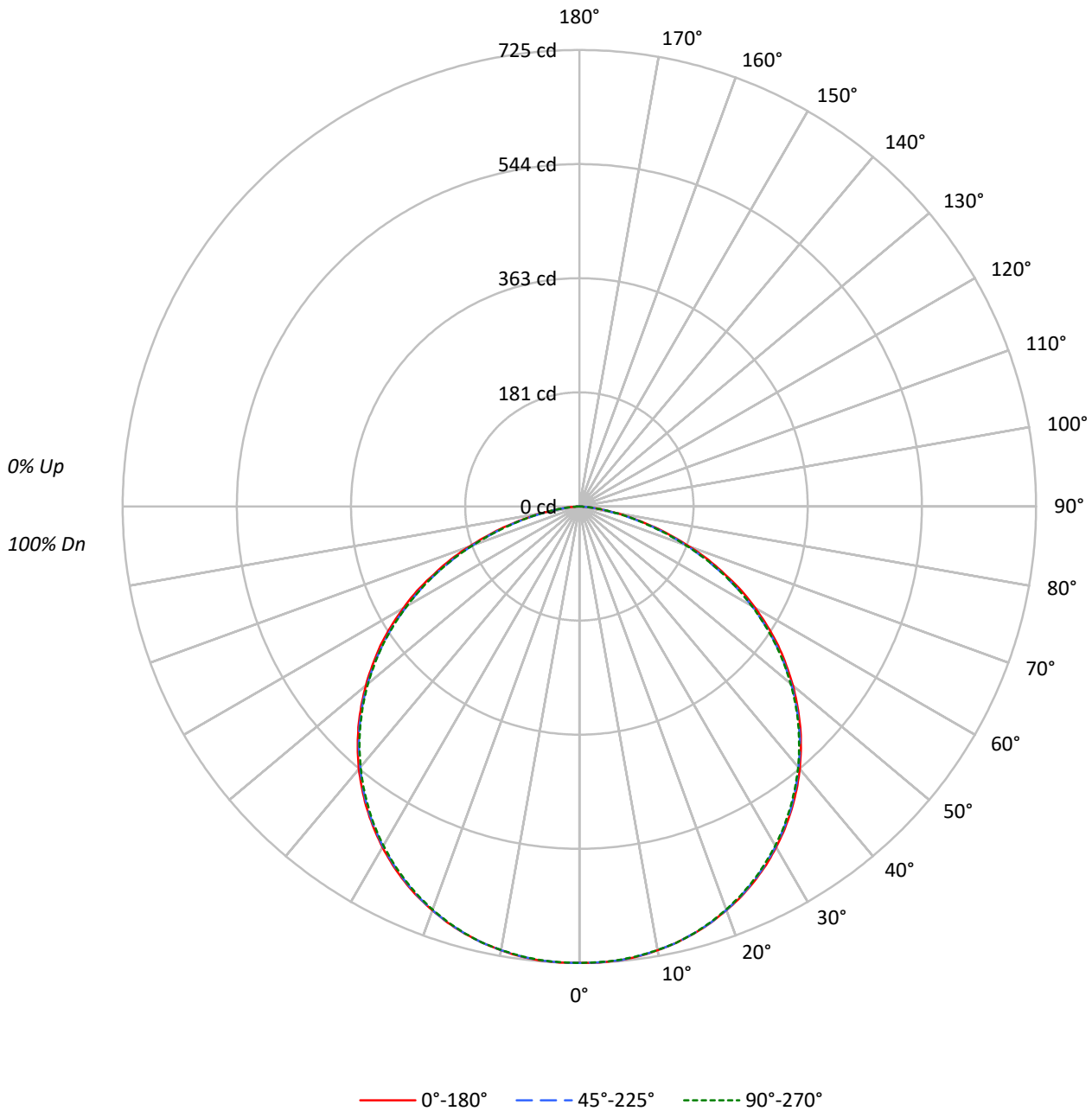
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2049.1 lumens
Efficiency: N/A
Efficacy: 122.7 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.39
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 16.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor:
Total Harmonic Distortion (THDi):
Frequency (hertz): 60
Stabilization Time: HR
Operation Time: HR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 109 | 105 | 100 | 97 | 106 | 102 | 99 | 95 | 98 | 95 | 92 | 94 | 92 | 89 | 91 | 89 | 87 | 85 |
| 2 | 99 | 91 | 85 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 83 | 78 | 75 | 80 | 76 | 73 | 71 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 68 | 63 | 70 | 66 | 62 | 60 |
| 4 | 83 | 71 | 62 | 56 | 81 | 70 | 62 | 55 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 57 | 53 | 51 |
| 5 | 76 | 64 | 55 | 48 | 74 | 62 | 54 | 48 | 60 | 53 | 47 | 58 | 52 | 47 | 56 | 51 | 46 | 44 |
| 6 | 70 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 41 | 38 |
| 7 | 65 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 49 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 34 |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 38 | 33 | 45 | 38 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 30 |
| 9 | 57 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 34 | 29 | 41 | 34 | 29 | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 39 | 32 | 27 | 38 | 31 | 27 | 38 | 31 | 26 | 37 | 31 | 26 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-----|-----|-----|
| 0° | 975 | 975 | 975 |
| 5° | 977 | 977 | 977 |
| 10° | 978 | 978 | 977 |
| 15° | 978 | 978 | 978 |
| 20° | 977 | 977 | 976 |
| 25° | 976 | 974 | 972 |
| 30° | 971 | 968 | 966 |
| 35° | 965 | 962 | 959 |
| 40° | 956 | 950 | 949 |
| 45° | 944 | 938 | 936 |
| 50° | 926 | 919 | 916 |
| 55° | 904 | 892 | 890 |
| 60° | 867 | 851 | 851 |
| 65° | 811 | 792 | 794 |
| 70° | 730 | 707 | 705 |
| 75° | 612 | 588 | 585 |
| 80° | 448 | 425 | 443 |
| 85° | 253 | 233 | 236 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 944 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 68.8 | 3.4 |
| 10°-20° | 198.3 | 9.7 |
| 20°-30° | 302.3 | 14.8 |
| 30°-40° | 366.2 | 17.9 |
| 40°-50° | 380.4 | 18.6 |
| 50°-60° | 340.3 | 16.6 |
| 60°-70° | 248.0 | 12.1 |
| 70°-80° | 122.8 | 6.0 |
| 80°-90° | 22.0 | 1.1 |
| 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°-30° | 569.3 | 27.8 |
| 0°-40° | 935.6 | 45.7 |
| 0°-60° | 1656.3 | 80.8 |
| 0°-90° | 2049.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2049.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 725 | 725 | 725 | 725 | 725 | |
| 5° | 724 | 724 | 724 | 724 | 723 | 69 |
| 15° | 702 | 702 | 702 | 703 | 702 | 198 |
| 25° | 657 | 656 | 656 | 656 | 655 | 303 |
| 35° | 587 | 587 | 586 | 585 | 584 | 367 |
| 45° | 496 | 495 | 493 | 492 | 492 | 382 |
| 55° | 386 | 383 | 380 | 380 | 380 | 343 |
| 65° | 255 | 253 | 249 | 250 | 250 | 253 |
| 75° | 118 | 116 | 113 | 115 | 113 | 126 |
| 85° | 16 | 15 | 15 | 15 | 15 | 23 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 725.0 | 725.0 | 725.0 | 725.0 | 725.0 |
| 2.5° | 725.0 | 724.7 | 724.7 | 725.0 | 724.5 |
| 5° | 723.7 | 724.0 | 723.7 | 723.7 | 723.2 |
| 7.5° | 720.8 | 720.6 | 720.3 | 720.6 | 719.8 |
| 10° | 715.9 | 715.9 | 715.6 | 715.9 | 715.4 |
| 12.5° | 709.9 | 709.9 | 709.9 | 710.2 | 709.9 |
| 15° | 702.4 | 702.1 | 702.1 | 702.6 | 702.1 |
| 17.5° | 693.5 | 693.3 | 693.3 | 693.0 | 692.5 |
| 20° | 682.6 | 682.6 | 682.3 | 682.1 | 681.3 |
| 22.5° | 670.9 | 670.6 | 669.9 | 669.9 | 668.8 |
| 25° | 657.1 | 656.3 | 655.8 | 655.6 | 654.8 |
| 27.5° | 642.0 | 641.0 | 640.2 | 639.7 | 638.9 |
| 30° | 625.1 | 624.1 | 623.3 | 622.5 | 622.0 |
| 32.5° | 606.9 | 606.4 | 605.1 | 604.8 | 603.8 |
| 35° | 587.4 | 586.6 | 585.8 | 584.8 | 583.8 |
| 37.5° | 566.6 | 565.8 | 564.0 | 563.5 | 562.7 |
| 40° | 544.5 | 543.4 | 541.1 | 541.1 | 540.3 |
| 42.5° | 520.8 | 519.8 | 518.2 | 517.2 | 516.6 |
| 45° | 496.1 | 495.0 | 493.2 | 492.2 | 491.7 |
| 47.5° | 469.8 | 469.0 | 467.0 | 466.2 | 465.4 |
| 50° | 442.5 | 441.5 | 439.1 | 438.6 | 437.8 |
| 52.5° | 413.9 | 413.4 | 410.2 | 410.0 | 409.2 |
| 55° | 385.5 | 382.7 | 380.1 | 380.1 | 379.5 |
| 57.5° | 354.3 | 352.2 | 348.8 | 348.8 | 348.3 |
| 60° | 322.1 | 320.2 | 316.3 | 316.9 | 316.3 |
| 62.5° | 290.6 | 286.7 | 283.0 | 284.6 | 283.3 |
| 65° | 254.7 | 252.6 | 248.7 | 249.7 | 249.5 |
| 67.5° | 221.9 | 218.0 | 214.4 | 216.4 | 215.4 |
| 70° | 185.5 | 183.4 | 179.8 | 181.8 | 179.2 |
| 72.5° | 151.1 | 149.3 | 145.7 | 148.0 | 145.4 |
| 75° | 117.8 | 116.0 | 113.2 | 115.2 | 112.6 |
| 77.5° | 86.4 | 85.1 | 82.5 | 84.5 | 85.1 |
| 80° | 57.8 | 56.2 | 54.9 | 56.7 | 57.2 |
| 82.5° | 33.8 | 32.8 | 32.3 | 32.5 | 33.8 |
| 85° | 16.4 | 15.1 | 15.1 | 15.3 | 15.3 |
| 87.5° | 4.4 | 3.9 | 4.4 | 4.7 | 4.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)