

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P184192

Luminaire Tested: **22FR-24-HP-UNV-L850-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P184192
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27146)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22FR-24-HP-UNV-L850-CD1-U
Description: METALUX 2X2 FR TROFFER LED HIGH EFFICIENCY FIXTURE

Light Source: EATON LED 5000K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2612.7 lumens
Efficiency: N/A
Efficacy: 131.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.22 / 1.3
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

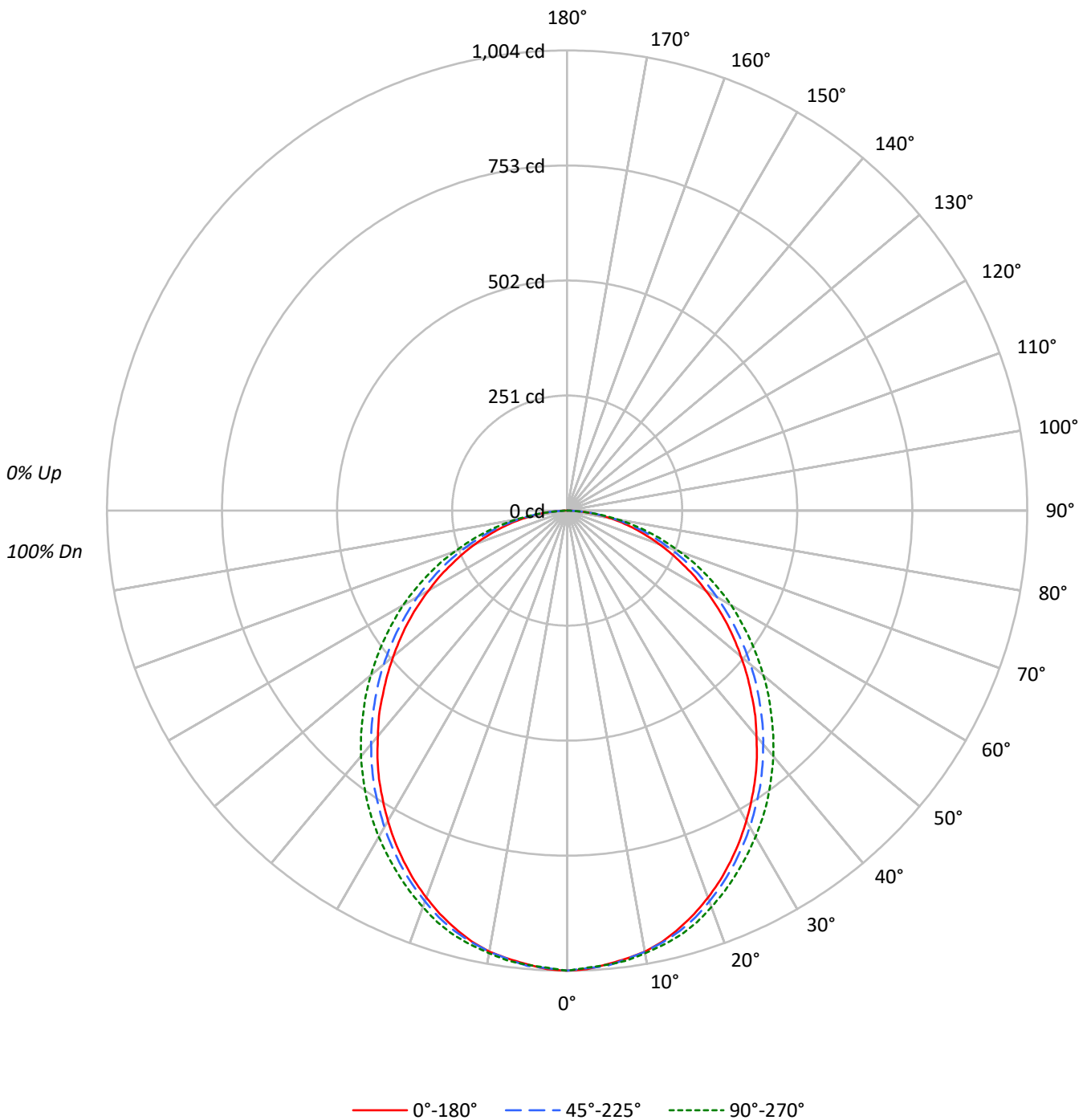
Input Watts (W): 19.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 104 | 100 | 96 | 106 | 102 | 98 | 94 | 98 | 94 | 91 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 78 | 96 | 89 | 83 | 78 | 85 | 80 | 76 | 82 | 78 | 74 | 79 | 76 | 72 | 70 |
| 3 | 90 | 80 | 72 | 65 | 88 | 78 | 71 | 65 | 75 | 69 | 64 | 73 | 67 | 63 | 70 | 65 | 62 | 59 |
| 4 | 83 | 71 | 62 | 56 | 81 | 70 | 62 | 55 | 67 | 60 | 54 | 65 | 59 | 54 | 63 | 57 | 53 | 51 |
| 5 | 76 | 64 | 55 | 48 | 74 | 62 | 54 | 48 | 60 | 53 | 47 | 58 | 52 | 47 | 57 | 51 | 46 | 44 |
| 6 | 71 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 55 | 47 | 42 | 53 | 46 | 41 | 51 | 45 | 41 | 39 |
| 7 | 66 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 36 | 34 |
| 8 | 61 | 48 | 39 | 33 | 59 | 47 | 39 | 33 | 46 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 36 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 28 |
| 10 | 54 | 40 | 33 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 37 | 31 | 27 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2701 | 2701 | 2701 |
| 5° | 2685 | 2693 | 2687 |
| 10° | 2670 | 2670 | 2679 |
| 15° | 2630 | 2645 | 2670 |
| 20° | 2573 | 2598 | 2636 |
| 25° | 2506 | 2542 | 2595 |
| 30° | 2430 | 2478 | 2554 |
| 35° | 2350 | 2412 | 2510 |
| 40° | 2256 | 2338 | 2459 |
| 45° | 2165 | 2262 | 2398 |
| 50° | 2071 | 2187 | 2340 |
| 55° | 1983 | 2107 | 2279 |
| 60° | 1880 | 2030 | 2227 |
| 65° | 1780 | 1949 | 2147 |
| 70° | 1685 | 1858 | 2050 |
| 75° | 1580 | 1764 | 1937 |
| 80° | 1461 | 1633 | 1753 |
| 85° | 1232 | 1337 | 1337 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 94.4 | 3.6 |
| 10°-20° | 267.5 | 10.2 |
| 20°-30° | 394.7 | 15.1 |
| 30°-40° | 459.9 | 17.6 |
| 40°-50° | 460.5 | 17.6 |
| 50°-60° | 403.2 | 15.4 |
| 60°-70° | 303.9 | 11.6 |
| 70°-80° | 179.1 | 6.9 |
| 80°-90° | 49.5 | 1.9 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 756.6 | 29.0 |
| 0°-40° | 1216.5 | 46.6 |
| 0°-60° | 2080.2 | 79.6 |
| 0°-90° | 2612.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2612.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1004 | 1004 | 1004 | 1004 | 1004 | |
| 5° | 994 | 995 | 997 | 993 | 995 | 94 |
| 15° | 944 | 945 | 949 | 953 | 958 | 266 |
| 25° | 844 | 847 | 856 | 866 | 874 | 389 |
| 35° | 715 | 720 | 734 | 750 | 764 | 447 |
| 45° | 569 | 577 | 594 | 616 | 630 | 439 |
| 55° | 423 | 429 | 449 | 470 | 486 | 378 |
| 65° | 280 | 287 | 306 | 324 | 337 | 278 |
| 75° | 152 | 158 | 170 | 181 | 186 | 161 |
| 85° | 40 | 42 | 43 | 43 | 43 | 46 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1003.8 | 1003.8 | 1003.8 | 1003.8 | 1003.8 |
| 2.5° | 1001.5 | 1001.5 | 999.3 | 998.2 | 998.2 |
| 5° | 993.8 | 994.9 | 997.1 | 992.7 | 994.9 |
| 7.5° | 986.0 | 986.0 | 987.1 | 988.2 | 990.4 |
| 10° | 977.1 | 977.1 | 977.1 | 980.5 | 980.5 |
| 12.5° | 962.7 | 962.7 | 964.9 | 966.0 | 970.5 |
| 15° | 943.9 | 945.0 | 949.4 | 952.7 | 958.3 |
| 17.5° | 922.8 | 925.0 | 930.6 | 935.0 | 941.6 |
| 20° | 898.4 | 902.8 | 907.3 | 913.9 | 920.6 |
| 22.5° | 872.9 | 876.2 | 882.9 | 890.6 | 898.4 |
| 25° | 844.0 | 847.4 | 856.2 | 866.2 | 874.0 |
| 27.5° | 814.1 | 817.4 | 827.4 | 838.5 | 848.5 |
| 30° | 781.9 | 786.4 | 797.5 | 810.8 | 821.9 |
| 32.5° | 748.7 | 753.1 | 765.3 | 780.8 | 794.1 |
| 35° | 715.4 | 719.8 | 734.2 | 749.8 | 764.2 |
| 37.5° | 679.9 | 684.3 | 699.9 | 717.6 | 732.0 |
| 40° | 642.2 | 648.8 | 665.5 | 685.4 | 699.9 |
| 42.5° | 607.8 | 613.3 | 631.1 | 651.1 | 665.5 |
| 45° | 569.0 | 576.7 | 594.5 | 615.6 | 630.0 |
| 47.5° | 532.4 | 540.1 | 559.0 | 580.1 | 595.6 |
| 50° | 494.7 | 502.4 | 522.4 | 543.5 | 559.0 |
| 52.5° | 459.2 | 465.8 | 485.8 | 506.9 | 522.4 |
| 55° | 422.6 | 429.2 | 449.2 | 470.3 | 485.8 |
| 57.5° | 386.0 | 392.6 | 412.6 | 433.7 | 449.2 |
| 60° | 349.4 | 357.1 | 377.1 | 397.1 | 413.7 |
| 62.5° | 315.0 | 321.6 | 341.6 | 360.5 | 374.9 |
| 65° | 279.5 | 287.3 | 306.1 | 323.9 | 337.2 |
| 67.5° | 246.2 | 254.0 | 271.7 | 289.5 | 300.6 |
| 70° | 214.1 | 220.7 | 236.2 | 252.9 | 260.6 |
| 72.5° | 181.9 | 188.6 | 203.0 | 216.3 | 222.9 |
| 75° | 152.0 | 157.5 | 169.7 | 180.8 | 186.3 |
| 77.5° | 123.1 | 128.7 | 137.5 | 145.3 | 149.7 |
| 80° | 94.3 | 97.6 | 105.4 | 109.8 | 113.1 |
| 82.5° | 66.5 | 69.9 | 73.2 | 77.6 | 77.6 |
| 85° | 39.9 | 42.1 | 43.3 | 43.3 | 43.3 |
| 87.5° | 16.6 | 16.6 | 14.4 | 12.2 | 11.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)