

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: FAIL-SAFE

Report Number: P588956

Luminaire Tested: **FMR-24-2-LD4-1STD-50-UNV-80-97-EDD**

Issue Date: 12/8/2021



Test Information

Test Method: LM-79-08
Report Number: P588956
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-24-2-LD4-1STD-50-UNV-80-97-EDD
Description: 2X2 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT
LEDS
Light Source: -
Ballast/Driver: -

Summary

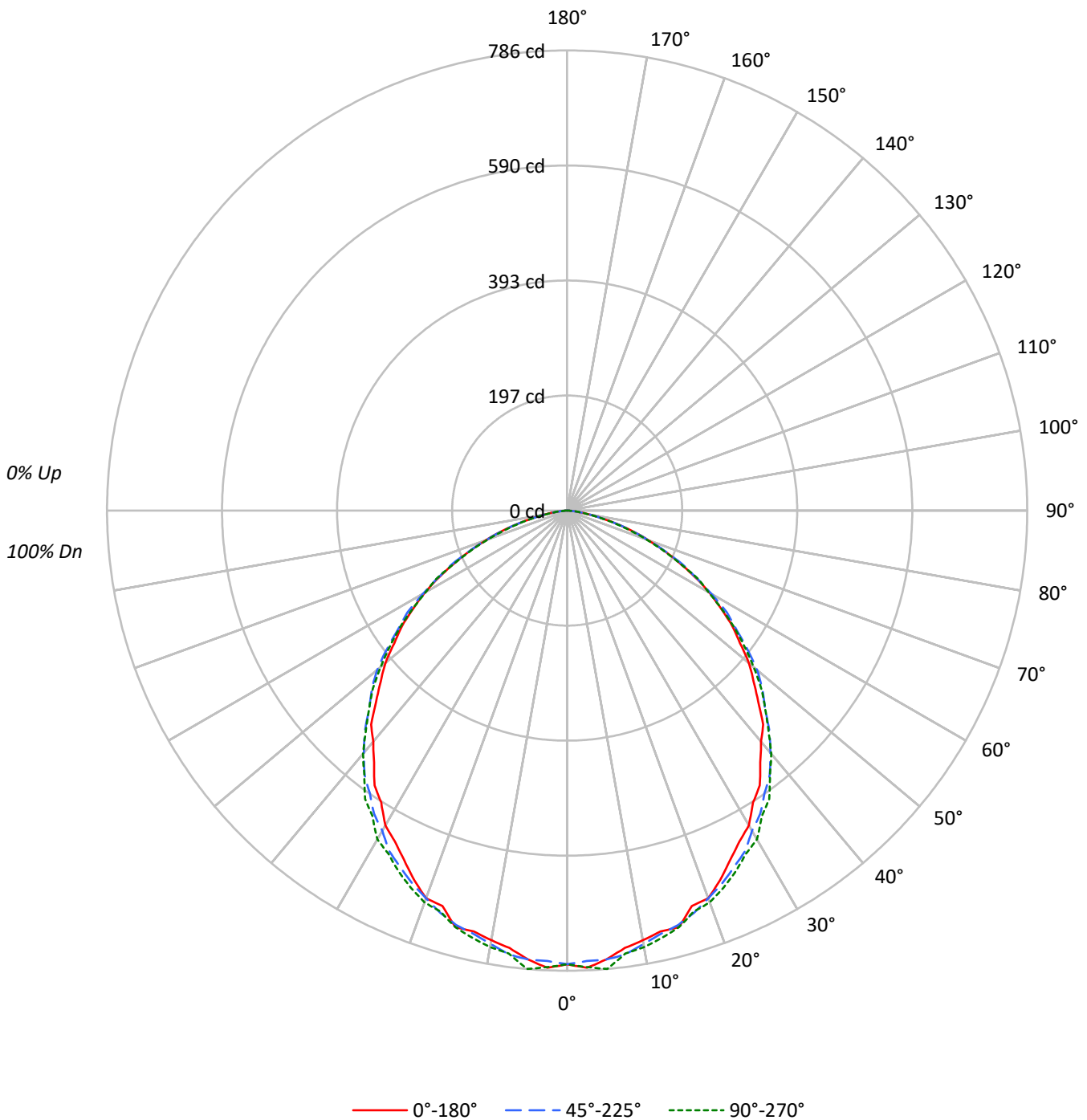
Lumens per Lamp: N/A
Luminaire Lumens: 1953.0 lumens
Efficiency: N/A
Efficacy: 117.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 16.6
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 | 110 | 105 | 101 | 98 | 107 | 103 | 100 | 96 | 99 | 96 | 93 | 95 | 93 | 90 | 91 | 90 | 88 | 86 |
| 2 | 100 | 93 | 86 | 81 | 98 | 91 | 85 | 80 | 87 | 82 | 78 | 84 | 80 | 76 | 81 | 78 | 75 | 73 |
| 3 | 92 | 82 | 74 | 68 | 89 | 80 | 73 | 67 | 77 | 71 | 66 | 75 | 69 | 65 | 72 | 68 | 64 | 62 |
| 4 | 84 | 73 | 64 | 58 | 82 | 71 | 64 | 58 | 69 | 62 | 57 | 67 | 61 | 56 | 65 | 59 | 55 | 53 |
| 5 | 78 | 65 | 57 | 50 | 76 | 64 | 56 | 50 | 62 | 55 | 49 | 60 | 54 | 49 | 58 | 53 | 48 | 46 |
| 6 | 72 | 59 | 50 | 44 | 70 | 58 | 50 | 44 | 56 | 49 | 43 | 54 | 48 | 43 | 53 | 47 | 43 | 41 |
| 7 | 67 | 53 | 45 | 39 | 65 | 53 | 45 | 39 | 51 | 44 | 39 | 50 | 43 | 38 | 48 | 42 | 38 | 36 |
| 8 | 62 | 49 | 41 | 35 | 61 | 48 | 40 | 35 | 47 | 40 | 34 | 46 | 39 | 34 | 44 | 39 | 34 | 32 |
| 9 | 58 | 45 | 37 | 31 | 57 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 29 |
| 10 | 54 | 41 | 34 | 29 | 53 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2085 | 2085 | 2085 |
| 5° | 2078 | 2079 | 2123 |
| 10° | 2036 | 2054 | 2068 |
| 15° | 2052 | 2041 | 2053 |
| 20° | 2018 | 2018 | 2039 |
| 25° | 1955 | 1998 | 2021 |
| 30° | 1929 | 1963 | 2015 |
| 35° | 1883 | 1933 | 1976 |
| 40° | 1810 | 1897 | 1906 |
| 45° | 1755 | 1818 | 1820 |
| 50° | 1698 | 1774 | 1740 |
| 55° | 1618 | 1649 | 1637 |
| 60° | 1512 | 1527 | 1500 |
| 65° | 1349 | 1383 | 1339 |
| 70° | 1157 | 1161 | 1129 |
| 75° | 916 | 914 | 879 |
| 80° | 614 | 597 | 573 |
| 85° | 333 | 330 | 309 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 72.9 | 3.7 |
| 10°-20° | 206.6 | 10.6 |
| 20°-30° | 309.5 | 15.8 |
| 30°-40° | 366.8 | 18.8 |
| 40°-50° | 367.5 | 18.8 |
| 50°-60° | 312.0 | 16.0 |
| 60°-70° | 210.3 | 10.8 |
| 70°-80° | 92.4 | 4.7 |
| 80°-90° | 15.0 | 0.8 |
| 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° | 589.0 | 30.2 |
| 0°-40° | 955.8 | 48.9 |
| 0°-60° | 1635.3 | 83.7 |
| 0°-90° | 1953.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1953.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 775 | 775 | 775 | 775 | 775 | |
| 5° | 769 | 768 | 770 | 767 | 786 | 73 |
| 15° | 737 | 728 | 733 | 736 | 737 | 205 |
| 25° | 659 | 662 | 673 | 682 | 680 | 304 |
| 35° | 573 | 575 | 588 | 602 | 602 | 356 |
| 45° | 461 | 470 | 478 | 490 | 478 | 357 |
| 55° | 345 | 342 | 352 | 349 | 349 | 307 |
| 65° | 212 | 209 | 217 | 209 | 210 | 211 |
| 75° | 88 | 86 | 88 | 82 | 84 | 94 |
| 85° | 11 | 10 | 11 | 10 | 10 | 16 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P588956

CATALOG NUMBER: FMR-24-2-LD4-1STD-50-UNV-80-97-EDD

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 774.9 | 774.9 | 774.9 | 774.9 | 774.9 |
| 2.5° | 781.6 | 775.7 | 770.2 | 776.6 | 780.5 |
| 5° | 769.4 | 767.6 | 769.7 | 767.4 | 785.9 |
| 7.5° | 753.6 | 760.5 | 764.5 | 762.0 | 763.1 |
| 10° | 745.2 | 742.8 | 751.7 | 757.9 | 757.0 |
| 12.5° | 736.2 | 739.8 | 740.3 | 747.0 | 747.6 |
| 15° | 736.7 | 728.2 | 732.7 | 736.5 | 736.8 |
| 17.5° | 708.1 | 717.3 | 720.4 | 729.1 | 718.3 |
| 20° | 704.6 | 697.9 | 704.6 | 713.5 | 712.1 |
| 22.5° | 683.1 | 675.5 | 690.0 | 697.9 | 697.4 |
| 25° | 658.6 | 662.2 | 673.0 | 681.9 | 680.5 |
| 27.5° | 637.2 | 641.4 | 656.8 | 668.9 | 661.1 |
| 30° | 620.7 | 618.6 | 631.6 | 642.4 | 648.4 |
| 32.5° | 591.2 | 598.8 | 614.0 | 624.7 | 619.0 |
| 35° | 573.3 | 575.0 | 588.3 | 601.9 | 601.5 |
| 37.5° | 542.0 | 549.9 | 568.6 | 572.4 | 568.9 |
| 40° | 515.3 | 523.2 | 540.1 | 544.2 | 542.5 |
| 42.5° | 495.6 | 497.0 | 511.5 | 516.2 | 508.7 |
| 45° | 461.2 | 469.8 | 477.6 | 490.0 | 478.3 |
| 47.5° | 432.0 | 436.0 | 452.8 | 456.1 | 450.0 |
| 50° | 405.5 | 406.9 | 423.8 | 419.7 | 415.7 |
| 52.5° | 372.2 | 378.1 | 387.6 | 386.8 | 382.1 |
| 55° | 344.8 | 342.5 | 351.5 | 349.1 | 349.0 |
| 57.5° | 311.9 | 315.9 | 323.3 | 319.5 | 313.4 |
| 60° | 281.0 | 281.1 | 283.8 | 279.5 | 278.7 |
| 62.5° | 246.7 | 247.9 | 248.5 | 243.2 | 251.8 |
| 65° | 211.8 | 209.0 | 217.2 | 208.9 | 210.3 |
| 67.5° | 179.7 | 181.1 | 180.3 | 175.1 | 177.1 |
| 70° | 147.1 | 148.9 | 147.6 | 141.7 | 143.5 |
| 72.5° | 117.3 | 115.1 | 116.5 | 109.1 | 112.5 |
| 75° | 88.1 | 86.3 | 87.9 | 81.7 | 84.5 |
| 77.5° | 60.0 | 61.4 | 60.4 | 57.1 | 59.0 |
| 80° | 39.6 | 38.5 | 38.5 | 36.6 | 37.0 |
| 82.5° | 23.1 | 22.0 | 21.7 | 21.1 | 22.0 |
| 85° | 10.8 | 10.5 | 10.7 | 10.4 | 10.0 |
| 87.5° | 3.9 | 4.0 | 4.0 | 3.8 | 3.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)