

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: P732423

Luminaire Tested: **14FCZ2-20-B2750-W2D-CP187-3500K**

Issue Date: 1/5/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P732423  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P275502)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 1/5/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 14FCZ2-20-B2750-W2D-CP187-3500K  
Description: 1X4 2000 LUMEN SEALED CRUZE TROFFER WITH BIO UP LEDS AT 3500K CCT  
AND RIBBED LENS, WITH, CP187 BOTTOM LENS  
  
Light Source: -  
Ballast/Driver: -

**Summary**

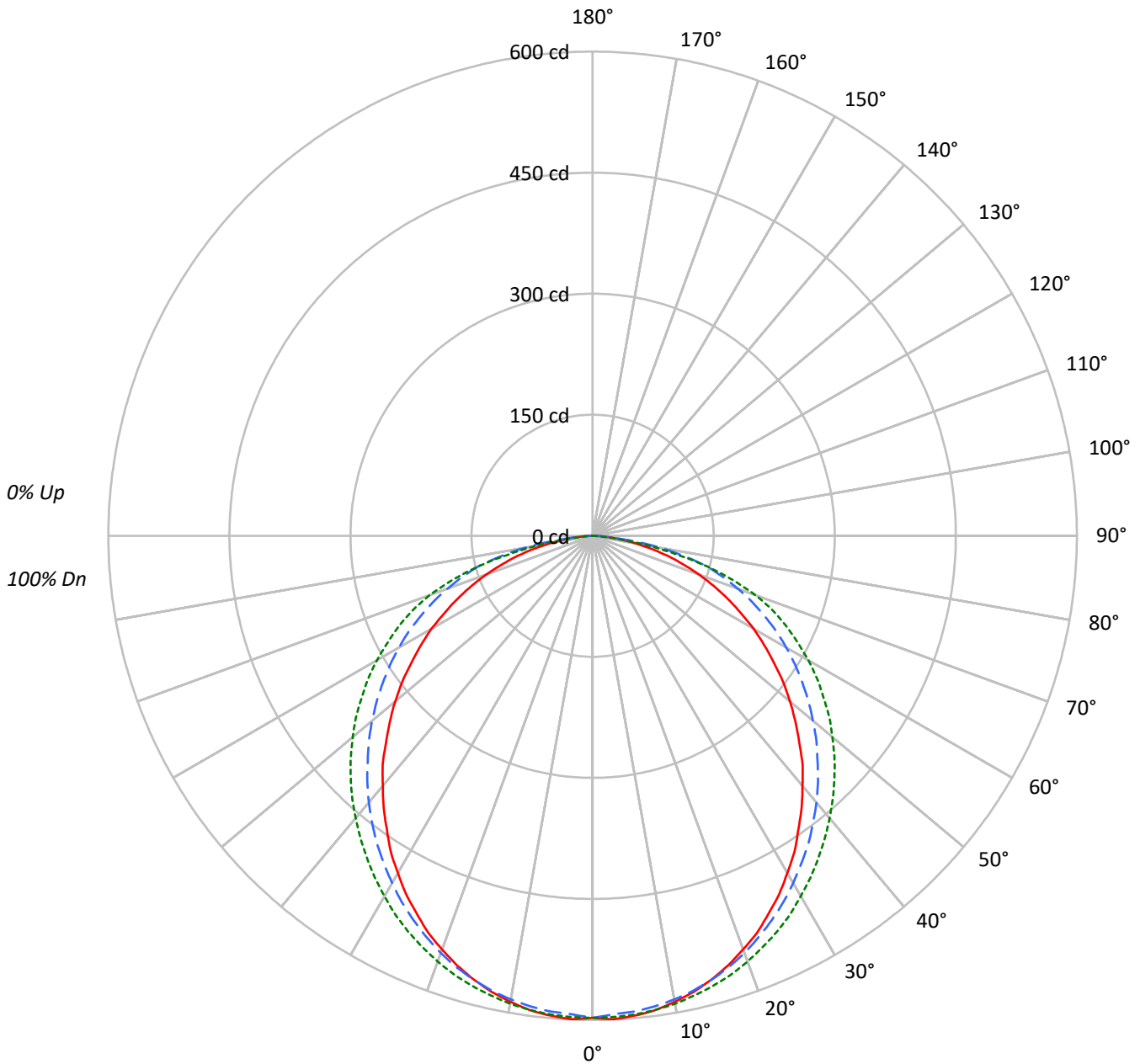
Lumens per Lamp: N/A  
Luminaire Lumens: 1734.0 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 0.96' x L: 3.98' x H: 0')  
CIE Type: Direct

Input Watts (W): 16  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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  | 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 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 90  | 87  | 85  | 83  |    |    |    |  |  |  |  |   |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 84  | 79  | 74  | 81  | 77  | 73  | 78  | 74  | 71  | 69  |    |    |    |  |  |  |  |   |
| 3   | 89  | 79  | 70  | 64  | 87  | 77  | 69  | 63  | 74  | 67  | 62  | 71  | 66  | 61  | 69  | 64  | 60  | 58  |    |    |    |  |  |  |  |   |
| 4   | 82  | 70  | 61  | 54  | 79  | 68  | 60  | 53  | 66  | 58  | 53  | 63  | 57  | 52  | 61  | 56  | 51  | 49  |    |    |    |  |  |  |  |   |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 52  | 46  | 59  | 51  | 45  | 57  | 50  | 45  | 55  | 49  | 44  | 42  |    |    |    |  |  |  |  |   |
| 6   | 69  | 56  | 47  | 40  | 67  | 55  | 46  | 40  | 53  | 45  | 40  | 51  | 44  | 39  | 50  | 44  | 39  | 37  |    |    |    |  |  |  |  |   |
| 7   | 64  | 51  | 42  | 35  | 63  | 50  | 41  | 35  | 48  | 41  | 35  | 47  | 40  | 35  | 45  | 39  | 34  | 32  |    |    |    |  |  |  |  |   |
| 8   | 60  | 46  | 37  | 32  | 58  | 45  | 37  | 31  | 44  | 37  | 31  | 43  | 36  | 31  | 42  | 35  | 31  | 29  |    |    |    |  |  |  |  |   |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  | 41  | 33  | 28  | 39  | 33  | 28  | 38  | 32  | 28  | 26  |    |    |    |  |  |  |  |   |
| 10  | 52  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 37  | 30  | 26  | 37  | 30  | 25  | 36  | 30  | 25  | 24  |    |    |    |  |  |  |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1686 | 1686 | 1686 |
| 5°  | 1692 | 1677 | 1687 |
| 10° | 1681 | 1672 | 1688 |
| 15° | 1663 | 1664 | 1687 |
| 20° | 1639 | 1653 | 1686 |
| 25° | 1608 | 1636 | 1685 |
| 30° | 1573 | 1620 | 1681 |
| 35° | 1531 | 1605 | 1680 |
| 40° | 1490 | 1590 | 1683 |
| 45° | 1445 | 1573 | 1692 |
| 50° | 1402 | 1566 | 1703 |
| 55° | 1349 | 1561 | 1718 |
| 60° | 1301 | 1563 | 1742 |
| 65° | 1234 | 1568 | 1769 |
| 70° | 1159 | 1580 | 1768 |
| 75° | 1049 | 1594 | 1599 |
| 80° | 862  | 1375 | 1136 |
| 85° | 638  | 651  | 262  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 56.5   | 3.3       |
| 10°-20°   | 161.5  | 9.3       |
| 20°-30°   | 243.2  | 14.0      |
| 30°-40°   | 291.9  | 16.8      |
| 40°-50°   | 304.2  | 17.5      |
| 50°-60°   | 281.7  | 16.2      |
| 60°-70°   | 227.6  | 13.1      |
| 70°-80°   | 138.7  | 8.0       |
| 80°-90°   | 28.6   | 1.7       |
| 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°-30°    | 461.2  | 26.6      |
| 0°-40°    | 753.2  | 43.4      |
| 0°-60°    | 1339.1 | 77.2      |
| 0°-90°    | 1734.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1734.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 597 | 597   | 597 | 597   | 597 |      |
| 5°  | 597 | 596   | 592 | 596   | 596 | 57   |
| 15° | 569 | 570   | 570 | 577   | 577 | 160  |
| 25° | 516 | 519   | 525 | 539   | 541 | 238  |
| 35° | 444 | 451   | 466 | 483   | 488 | 278  |
| 45° | 362 | 373   | 394 | 416   | 424 | 280  |
| 55° | 274 | 288   | 317 | 342   | 349 | 246  |
| 65° | 185 | 203   | 235 | 258   | 265 | 183  |
| 75° | 96  | 118   | 146 | 148   | 147 | 101  |
| 85° | 20  | 29    | 20  | 11    | 8   | 24   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 597.4 | 597.4 | 597.4 | 597.4 | 597.4 |
| 2.5°  | 599.7 | 597.8 | 593.5 | 597.8 | 597.0 |
| 5°    | 597.0 | 595.5 | 591.9 | 596.2 | 595.5 |
| 7.5°  | 593.1 | 591.5 | 588.4 | 593.5 | 592.7 |
| 10°   | 586.5 | 585.8 | 583.4 | 589.3 | 588.9 |
| 12.5° | 578.9 | 578.4 | 577.3 | 583.9 | 583.4 |
| 15°   | 569.2 | 569.5 | 569.5 | 577.3 | 577.3 |
| 17.5° | 558.3 | 559.1 | 560.7 | 569.2 | 570.3 |
| 20°   | 545.5 | 547.1 | 550.2 | 559.9 | 561.4 |
| 22.5° | 532.4 | 533.6 | 538.2 | 549.8 | 551.4 |
| 25°   | 516.2 | 519.2 | 525.4 | 538.6 | 541.0 |
| 27.5° | 500.7 | 503.4 | 511.9 | 525.4 | 529.4 |
| 30°   | 482.5 | 486.8 | 496.9 | 511.6 | 515.8 |
| 32.5° | 465.2 | 469.7 | 481.4 | 498.4 | 502.2 |
| 35°   | 444.3 | 451.2 | 465.9 | 482.9 | 487.5 |
| 37.5° | 425.4 | 431.9 | 448.6 | 467.1 | 472.5 |
| 40°   | 404.4 | 412.6 | 431.5 | 451.2 | 456.7 |
| 42.5° | 385.1 | 392.8 | 413.3 | 433.5 | 440.8 |
| 45°   | 361.9 | 372.8 | 394.0 | 416.0 | 423.8 |
| 47.5° | 340.6 | 351.5 | 375.9 | 399.4 | 406.4 |
| 50°   | 319.3 | 330.9 | 356.5 | 380.9 | 387.8 |
| 52.5° | 297.3 | 309.8 | 337.1 | 361.5 | 369.7 |
| 55°   | 274.1 | 288.5 | 317.1 | 341.8 | 349.1 |
| 57.5° | 252.1 | 266.8 | 297.3 | 322.4 | 329.8 |
| 60°   | 230.5 | 245.6 | 276.9 | 300.8 | 308.6 |
| 62.5° | 206.5 | 224.3 | 256.7 | 280.3 | 286.1 |
| 65°   | 184.8 | 203.0 | 234.7 | 258.2 | 264.8 |
| 67.5° | 162.0 | 181.7 | 213.4 | 235.0 | 241.3 |
| 70°   | 140.4 | 160.8 | 191.4 | 211.5 | 214.2 |
| 72.5° | 117.2 | 138.1 | 168.9 | 181.7 | 181.7 |
| 75°   | 96.2  | 117.5 | 146.2 | 148.5 | 146.6 |
| 77.5° | 73.4  | 97.1  | 115.6 | 110.9 | 106.3 |
| 80°   | 53.0  | 76.2  | 84.6  | 76.2  | 69.9  |
| 82.5° | 35.6  | 55.2  | 51.0  | 40.6  | 36.0  |
| 85°   | 19.7  | 29.4  | 20.1  | 11.2  | 8.1   |
| 87.5° | 7.3   | 6.6   | 1.9   | 1.9   | 1.9   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



Report Generated By 670246072 / DESKTOP-50001EG







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)