

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: P734150

Luminaire Tested: **24FCZ2-30HE-SQR-B2750-W2D-CP187-5000K**

Issue Date: 1/5/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P734150  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P388488)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 1/5/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-30HE-SQR-B2750-W2D-CP187-5000K  
Description: 2X4 3000 LUMEN SEALED CRUZE TROFFER WITH BIO UP LEDS AT 5000K CCT  
AND SQR LENS, WITH, CP187 BOTTOM LENS

Light Source: -  
Ballast/Driver: -

**Summary**

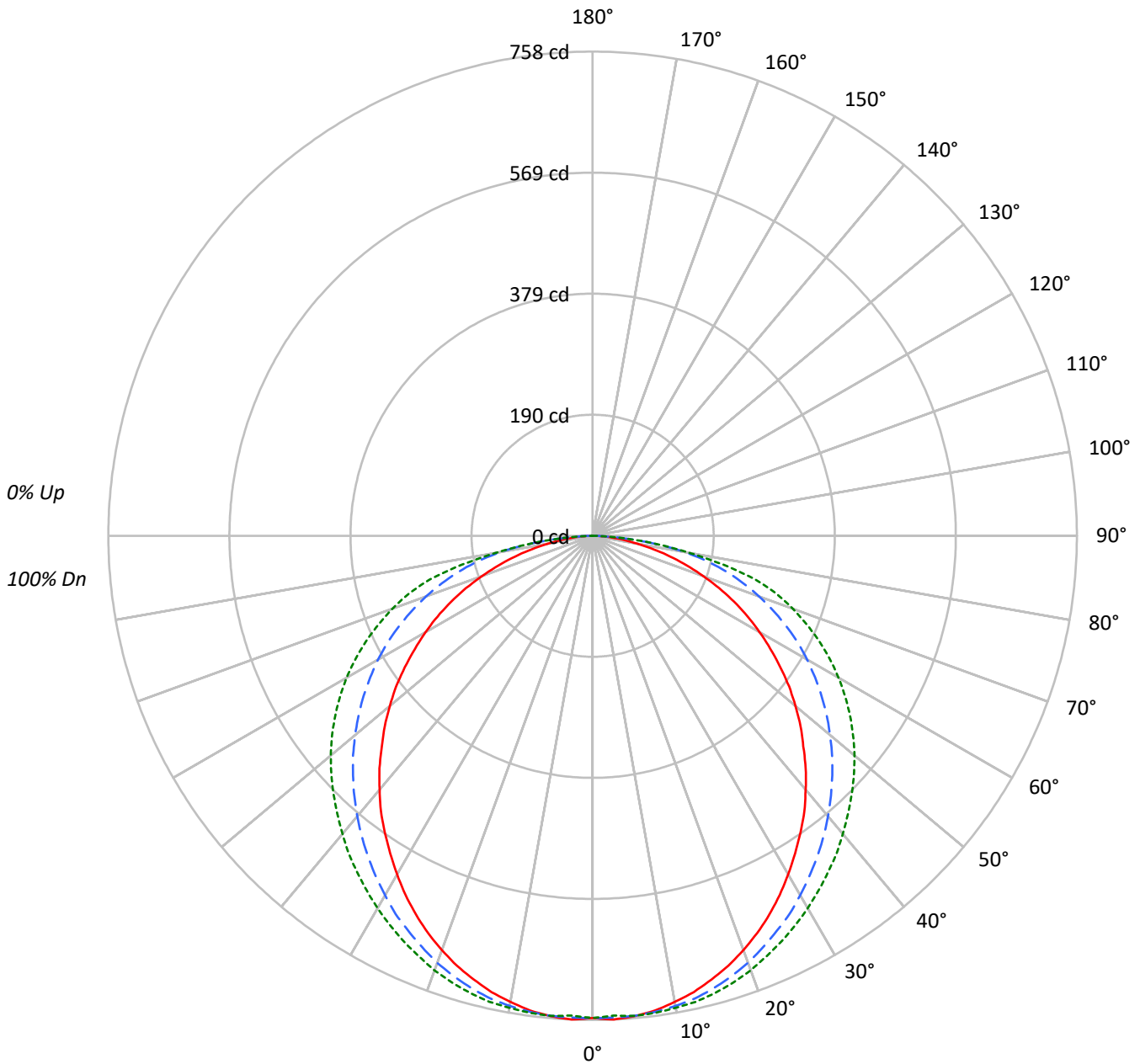
Lumens per Lamp: N/A  
Luminaire Lumens: 2362.0 lumens  
Efficiency: N/A  
Efficacy: 107.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 1.92' x L: 3.98' x H: 0')  
CIE Type: Direct

Input Watts (W): 22  
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 |  |  |  |  |  |  |  |  |   |
| RC  | 80  |     |     |     |     |     |     |     |     | 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   | 108 | 103 | 98  | 94  | 105 | 100 | 96  | 92  | 96  | 93  | 89  | 92  | 89  | 87  | 89  | 86  | 84  | 82  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 98  | 89  | 81  | 75  | 95  | 87  | 80  | 74  | 83  | 78  | 73  | 80  | 75  | 71  | 77  | 73  | 69  | 67  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 89  | 77  | 69  | 62  | 86  | 76  | 68  | 61  | 73  | 66  | 60  | 70  | 64  | 59  | 67  | 62  | 58  | 56  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 81  | 68  | 59  | 52  | 78  | 67  | 58  | 52  | 64  | 57  | 51  | 62  | 55  | 50  | 60  | 54  | 49  | 47  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 74  | 61  | 51  | 44  | 72  | 60  | 51  | 44  | 57  | 50  | 44  | 55  | 49  | 43  | 54  | 48  | 43  | 41  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 68  | 55  | 45  | 39  | 66  | 54  | 45  | 38  | 52  | 44  | 38  | 50  | 43  | 38  | 48  | 42  | 37  | 35  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 63  | 49  | 40  | 34  | 62  | 49  | 40  | 34  | 47  | 39  | 34  | 45  | 39  | 33  | 44  | 38  | 33  | 31  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 59  | 45  | 36  | 30  | 57  | 44  | 36  | 30  | 43  | 35  | 30  | 42  | 35  | 30  | 40  | 34  | 30  | 28  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 55  | 41  | 33  | 27  | 54  | 41  | 33  | 27  | 39  | 32  | 27  | 38  | 32  | 27  | 37  | 31  | 27  | 25  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 52  | 38  | 30  | 25  | 50  | 37  | 30  | 24  | 36  | 29  | 24  | 36  | 29  | 24  | 35  | 29  | 24  | 22  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1066 | 1066 | 1066 |
| 5°  | 1070 | 1069 | 1069 |
| 10° | 1062 | 1071 | 1075 |
| 15° | 1051 | 1071 | 1083 |
| 20° | 1037 | 1068 | 1087 |
| 25° | 1019 | 1063 | 1091 |
| 30° | 998  | 1059 | 1097 |
| 35° | 977  | 1056 | 1107 |
| 40° | 956  | 1056 | 1122 |
| 45° | 931  | 1058 | 1144 |
| 50° | 909  | 1065 | 1175 |
| 55° | 883  | 1077 | 1211 |
| 60° | 852  | 1094 | 1255 |
| 65° | 815  | 1115 | 1308 |
| 70° | 756  | 1143 | 1375 |
| 75° | 685  | 1182 | 1438 |
| 80° | 577  | 1186 | 1235 |
| 85° | 442  | 895  | 895  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 71.7   | 3.0       |
| 10°-20°   | 206.2  | 8.7       |
| 20°-30°   | 313.2  | 13.3      |
| 30°-40°   | 381.0  | 16.1      |
| 40°-50°   | 405.6  | 17.2      |
| 50°-60°   | 386.3  | 16.4      |
| 60°-70°   | 323.1  | 13.7      |
| 70°-80°   | 215.4  | 9.1       |
| 80°-90°   | 59.6   | 2.5       |
| 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°    | 591.1  | 25.0      |
| 0°-40°    | 972.0  | 41.2      |
| 0°-60°    | 1763.9 | 74.7      |
| 0°-90°    | 2362.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2362.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 755 | 755   | 755 | 755   | 755 |      |
| 5°  | 755 | 750   | 754 | 754   | 754 | 72   |
| 15° | 719 | 721   | 733 | 739   | 741 | 203  |
| 25° | 654 | 663   | 682 | 694   | 700 | 301  |
| 35° | 567 | 584   | 613 | 633   | 643 | 355  |
| 45° | 466 | 491   | 530 | 560   | 573 | 361  |
| 55° | 359 | 390   | 438 | 476   | 492 | 321  |
| 65° | 244 | 280   | 334 | 375   | 392 | 241  |
| 75° | 126 | 165   | 217 | 254   | 264 | 133  |
| 85° | 27  | 51    | 55  | 55    | 55  | 33   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 755.0 | 755.0 | 755.0 | 755.0 | 755.0 |
| 2.5°  | 758.1 | 752.6 | 755.0 | 755.0 | 751.9 |
| 5°    | 755.0 | 750.3 | 754.3 | 754.3 | 754.3 |
| 7.5°  | 749.6 | 745.6 | 751.9 | 753.4 | 753.4 |
| 10°   | 741.0 | 739.5 | 747.3 | 749.6 | 750.3 |
| 12.5° | 731.7 | 730.8 | 741.8 | 744.8 | 747.3 |
| 15°   | 719.1 | 720.7 | 733.2 | 738.6 | 741.0 |
| 17.5° | 705.9 | 708.9 | 723.0 | 730.8 | 733.2 |
| 20°   | 690.3 | 695.0 | 711.4 | 719.1 | 723.8 |
| 22.5° | 673.2 | 680.2 | 697.3 | 706.6 | 712.1 |
| 25°   | 654.4 | 662.9 | 682.5 | 694.1 | 700.4 |
| 27.5° | 634.1 | 645.1 | 667.7 | 680.9 | 687.2 |
| 30°   | 612.2 | 624.7 | 649.8 | 665.4 | 673.2 |
| 32.5° | 589.6 | 604.4 | 631.8 | 648.9 | 658.3 |
| 35°   | 567.0 | 583.5 | 613.1 | 633.3 | 642.7 |
| 37.5° | 544.4 | 560.8 | 593.6 | 615.4 | 627.1 |
| 40°   | 518.7 | 538.1 | 573.3 | 597.4 | 609.2 |
| 42.5° | 493.8 | 514.7 | 552.2 | 578.7 | 591.3 |
| 45°   | 466.4 | 491.4 | 530.3 | 560.0 | 573.3 |
| 47.5° | 441.4 | 466.4 | 508.5 | 539.8 | 554.6 |
| 50°   | 414.2 | 440.6 | 485.1 | 519.5 | 535.1 |
| 52.5° | 387.6 | 415.0 | 461.7 | 498.4 | 514.0 |
| 55°   | 358.8 | 390.0 | 437.6 | 475.8 | 492.1 |
| 57.5° | 329.9 | 363.5 | 412.6 | 452.4 | 468.8 |
| 60°   | 301.9 | 336.1 | 387.6 | 427.5 | 444.6 |
| 62.5° | 273.8 | 308.0 | 361.9 | 402.4 | 418.8 |
| 65°   | 244.1 | 280.0 | 333.8 | 375.2 | 391.6 |
| 67.5° | 214.5 | 251.9 | 305.7 | 347.1 | 362.7 |
| 70°   | 183.3 | 223.1 | 276.9 | 317.5 | 333.1 |
| 72.5° | 154.5 | 194.2 | 247.2 | 287.1 | 301.9 |
| 75°   | 125.6 | 165.3 | 216.8 | 253.5 | 263.7 |
| 77.5° | 97.5  | 137.2 | 183.3 | 207.5 | 209.8 |
| 80°   | 71.0  | 108.5 | 145.9 | 152.9 | 152.0 |
| 82.5° | 47.5  | 81.1  | 100.7 | 101.4 | 103.7 |
| 85°   | 27.3  | 50.7  | 55.3  | 54.6  | 55.3  |
| 87.5° | 10.9  | 17.9  | 15.6  | 11.7  | 11.7  |
| 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)