

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: P734159

Luminaire Tested: **24FCZ2-30HE-SQR-B2750-W2D-CP375-4000K**

Issue Date: 1/5/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P734159  
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-CP375-4000K  
Description: 2X4 3000 LUMEN SEALED CRUZE TROFFER WITH BIO UP LEDS AT 4000K CCT  
AND SQR LENS, WITH, CP375 BOTTOM LENS

Light Source: -  
Ballast/Driver: -

**Summary**

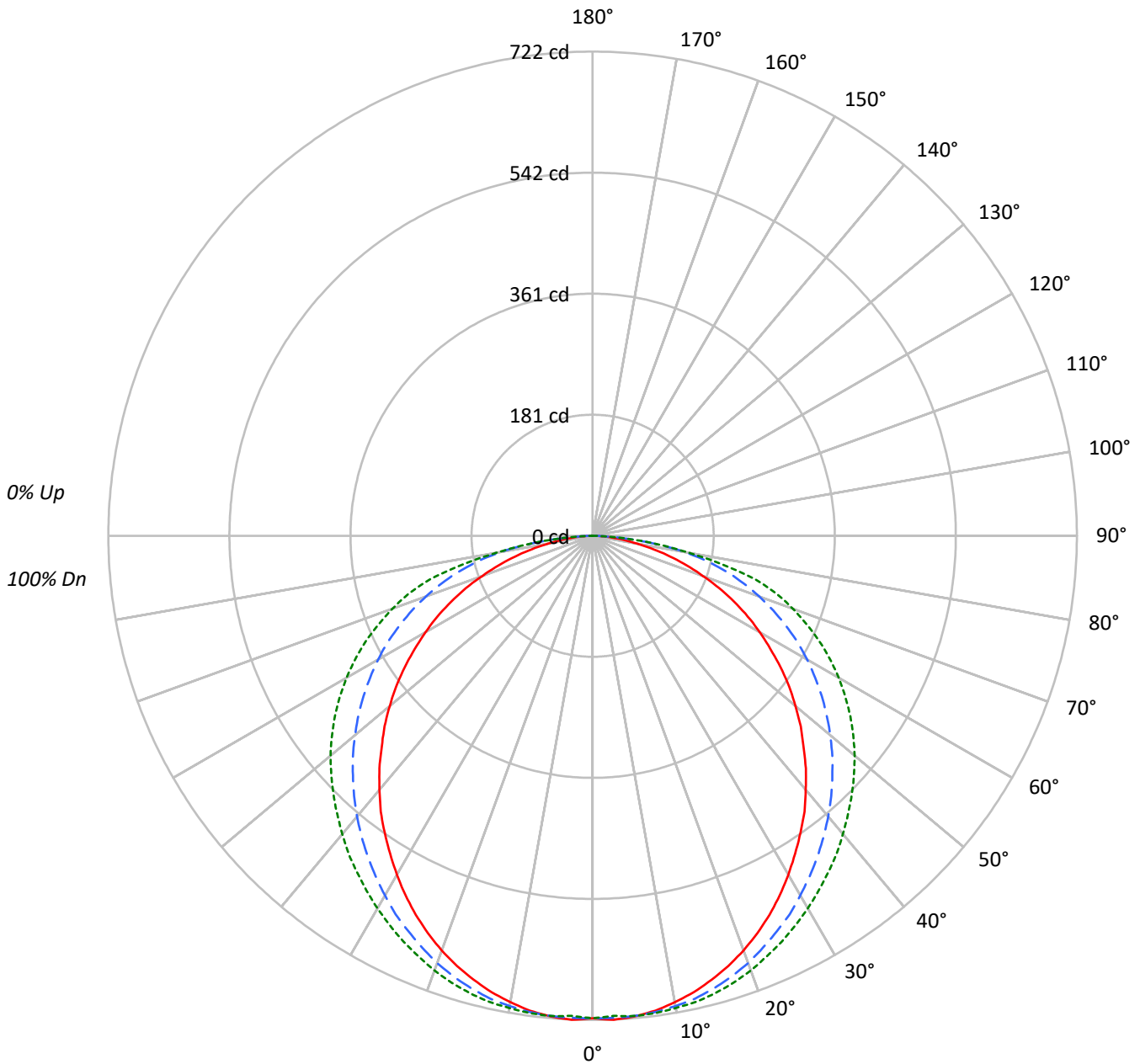
Lumens per Lamp: N/A  
Luminaire Lumens: 2251.0 lumens  
Efficiency: N/A  
Efficacy: 102.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 1.92' x L: 3.98' x H: 0')  
CIE Type: Direct

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°  | 1015 | 1015 | 1015 |
| 5°  | 1019 | 1018 | 1018 |
| 10° | 1012 | 1021 | 1025 |
| 15° | 1001 | 1021 | 1032 |
| 20° | 988  | 1018 | 1036 |
| 25° | 971  | 1013 | 1039 |
| 30° | 951  | 1009 | 1045 |
| 35° | 931  | 1007 | 1055 |
| 40° | 911  | 1007 | 1070 |
| 45° | 887  | 1009 | 1091 |
| 50° | 867  | 1015 | 1120 |
| 55° | 842  | 1026 | 1154 |
| 60° | 812  | 1043 | 1196 |
| 65° | 777  | 1062 | 1246 |
| 70° | 721  | 1089 | 1310 |
| 75° | 653  | 1127 | 1370 |
| 80° | 549  | 1130 | 1178 |
| 85° | 421  | 853  | 853  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 68.3   | 3.0       |
| 10°-20°   | 196.5  | 8.7       |
| 20°-30°   | 298.5  | 13.3      |
| 30°-40°   | 363.1  | 16.1      |
| 40°-50°   | 386.5  | 17.2      |
| 50°-60°   | 368.2  | 16.4      |
| 60°-70°   | 307.9  | 13.7      |
| 70°-80°   | 205.3  | 9.1       |
| 80°-90°   | 56.8   | 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°    | 563.3  | 25.0      |
| 0°-40°    | 926.3  | 41.2      |
| 0°-60°    | 1681.0 | 74.7      |
| 0°-90°    | 2251.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2251.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 720 | 720   | 720 | 720   | 720 |      |
| 5°  | 720 | 715   | 719 | 719   | 719 | 68   |
| 15° | 685 | 687   | 699 | 704   | 706 | 193  |
| 25° | 624 | 632   | 650 | 662   | 668 | 287  |
| 35° | 540 | 556   | 584 | 604   | 612 | 338  |
| 45° | 444 | 468   | 505 | 534   | 546 | 344  |
| 55° | 342 | 372   | 417 | 453   | 469 | 306  |
| 65° | 233 | 267   | 318 | 358   | 373 | 230  |
| 75° | 120 | 158   | 207 | 242   | 251 | 127  |
| 85° | 26  | 48    | 53  | 52    | 53  | 31   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 719.5 | 719.5 | 719.5 | 719.5 | 719.5 |
| 2.5°  | 722.5 | 717.3 | 719.5 | 719.5 | 716.6 |
| 5°    | 719.5 | 715.0 | 718.8 | 718.8 | 718.8 |
| 7.5°  | 714.4 | 710.6 | 716.6 | 718.0 | 718.0 |
| 10°   | 706.2 | 704.7 | 712.1 | 714.4 | 715.0 |
| 12.5° | 697.3 | 696.5 | 706.9 | 709.8 | 712.1 |
| 15°   | 685.3 | 686.8 | 698.7 | 703.9 | 706.2 |
| 17.5° | 672.7 | 675.6 | 689.1 | 696.5 | 698.7 |
| 20°   | 657.9 | 662.3 | 678.0 | 685.3 | 689.8 |
| 22.5° | 641.5 | 648.2 | 664.5 | 673.4 | 678.6 |
| 25°   | 623.7 | 631.8 | 650.4 | 661.5 | 667.5 |
| 27.5° | 604.3 | 614.8 | 636.3 | 648.9 | 654.9 |
| 30°   | 583.5 | 595.4 | 619.2 | 634.1 | 641.5 |
| 32.5° | 561.9 | 576.0 | 602.1 | 618.4 | 627.3 |
| 35°   | 540.4 | 556.0 | 584.2 | 603.6 | 612.5 |
| 37.5° | 518.8 | 534.4 | 565.7 | 586.5 | 597.7 |
| 40°   | 494.3 | 512.9 | 546.4 | 569.4 | 580.6 |
| 42.5° | 470.5 | 490.5 | 526.3 | 551.5 | 563.5 |
| 45°   | 444.5 | 468.3 | 505.4 | 533.7 | 546.4 |
| 47.5° | 420.7 | 444.5 | 484.7 | 514.4 | 528.5 |
| 50°   | 394.7 | 419.9 | 462.3 | 495.1 | 510.0 |
| 52.5° | 369.4 | 395.5 | 440.0 | 475.0 | 489.9 |
| 55°   | 342.0 | 371.6 | 417.0 | 453.4 | 469.0 |
| 57.5° | 314.4 | 346.4 | 393.2 | 431.1 | 446.8 |
| 60°   | 287.7 | 320.3 | 369.4 | 407.4 | 423.7 |
| 62.5° | 260.9 | 293.6 | 344.9 | 383.5 | 399.2 |
| 65°   | 232.6 | 266.8 | 318.1 | 357.5 | 373.2 |
| 67.5° | 204.4 | 240.1 | 291.4 | 330.8 | 345.6 |
| 70°   | 174.7 | 212.6 | 263.9 | 302.6 | 317.4 |
| 72.5° | 147.2 | 185.1 | 235.6 | 273.6 | 287.7 |
| 75°   | 119.7 | 157.6 | 206.6 | 241.6 | 251.3 |
| 77.5° | 92.9  | 130.8 | 174.7 | 197.7 | 200.0 |
| 80°   | 67.6  | 103.4 | 139.0 | 145.7 | 144.9 |
| 82.5° | 45.3  | 77.3  | 95.9  | 96.6  | 98.8  |
| 85°   | 26.0  | 48.3  | 52.7  | 52.1  | 52.7  |
| 87.5° | 10.4  | 17.1  | 14.9  | 11.1  | 11.1  |
| 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)