

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: P27111

Luminaire Tested: **FUSL-N12-2-LD4-1STD-40-UNV-80/86**

Test Date: 11/21/15



**Test Information**

Test Method: LM-79-08  
Report Number: P27111  
Test Lab: INNOVATION CENTER-P2  
Test Date: 11/21/15  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FUSL-N12-2-LD4-1STD-40-UNV-80/86  
Description: FAILSAFE LED 2' FUSL SLOPE SIDED CLAMSHELL CORRECTIONAL  
FIXTURE  
Light Source: (42) NICHIA 4000K LEDS  
2UT217042A8404A  
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER  
OSRAM OT25W

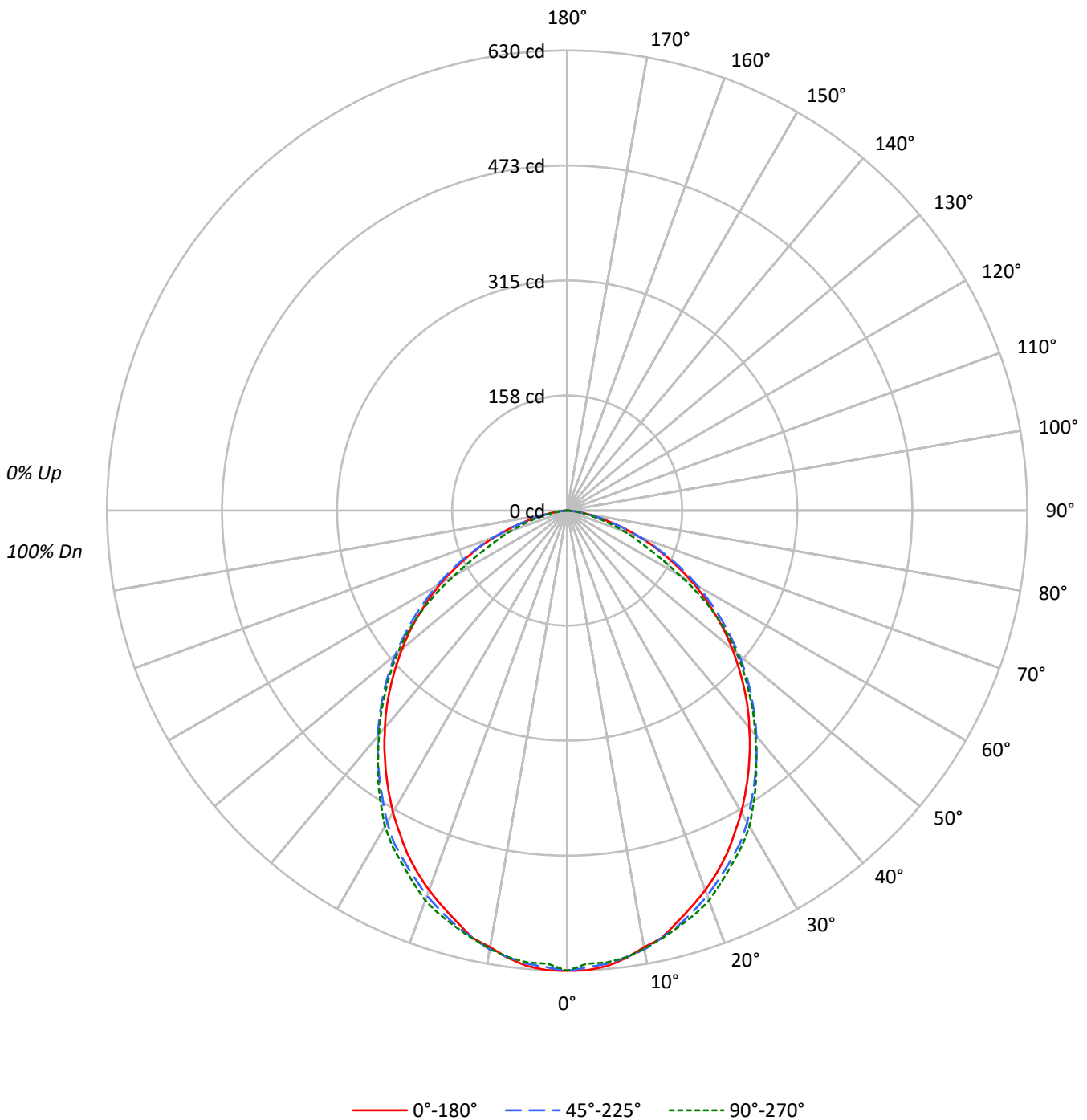
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1459.2 lumens  
Efficiency: N/A  
Efficacy: 84.3 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.18 / 1.27  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.3  
Input Voltage (V): 120.02  
Input Current (A<sub>in</sub>): 0.14499  
Voltage Rise (V): NR  
Power Factor: 0.9955  
Total Harmonic Distortion (THDi): 6.32%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: 24 HR  
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 | 50 | 30 | 10  | 0 |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |     |   |  |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |    | 100 |   |  |   |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  | 95  | 93  | 91  | 92  | 90  | 88  |     |    |    |    | 86 |     |   |  |   |
| 2   | 101 | 93  | 87  | 82  | 98  | 91  | 86  | 81  | 88  | 83  | 79  | 85  | 81  | 77  | 82  | 78  | 75  |     |    |    |    | 73 |     |   |  |   |
| 3   | 92  | 83  | 75  | 69  | 90  | 81  | 74  | 68  | 78  | 72  | 67  | 75  | 70  | 66  | 73  | 69  | 65  |     |    |    |    | 63 |     |   |  |   |
| 4   | 85  | 74  | 65  | 59  | 83  | 72  | 65  | 59  | 70  | 63  | 58  | 68  | 62  | 57  | 66  | 61  | 56  |     |    |    |    | 54 |     |   |  |   |
| 5   | 78  | 66  | 58  | 51  | 76  | 65  | 57  | 51  | 63  | 56  | 51  | 61  | 55  | 50  | 59  | 54  | 50  |     |    |    |    | 48 |     |   |  |   |
| 6   | 73  | 60  | 51  | 45  | 71  | 59  | 51  | 45  | 57  | 50  | 45  | 56  | 49  | 44  | 54  | 48  | 44  |     |    |    |    | 42 |     |   |  |   |
| 7   | 67  | 55  | 46  | 40  | 66  | 54  | 46  | 40  | 52  | 45  | 40  | 51  | 44  | 40  | 49  | 44  | 39  |     |    |    |    | 37 |     |   |  |   |
| 8   | 63  | 50  | 42  | 36  | 61  | 49  | 41  | 36  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 35  |     |    |    |    | 33 |     |   |  |   |
| 9   | 59  | 46  | 38  | 33  | 58  | 45  | 38  | 33  | 44  | 37  | 32  | 43  | 37  | 32  | 42  | 36  | 32  |     |    |    |    | 30 |     |   |  |   |
| 10  | 55  | 42  | 35  | 30  | 54  | 42  | 35  | 30  | 41  | 34  | 30  | 40  | 34  | 29  | 39  | 33  | 29  |     |    |    |    | 28 |     |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3391 | 3391 | 3391 |
| 5°  | 3382 | 3366 | 3355 |
| 10° | 3317 | 3334 | 3328 |
| 15° | 3248 | 3276 | 3287 |
| 20° | 3167 | 3213 | 3253 |
| 25° | 3076 | 3141 | 3171 |
| 30° | 2964 | 3064 | 3101 |
| 35° | 2845 | 2943 | 2963 |
| 40° | 2726 | 2831 | 2817 |
| 45° | 2603 | 2710 | 2679 |
| 50° | 2470 | 2570 | 2537 |
| 55° | 2318 | 2402 | 2318 |
| 60° | 2153 | 2217 | 1927 |
| 65° | 1923 | 1987 | 1554 |
| 70° | 1652 | 1668 | 1290 |
| 75° | 1289 | 1268 | 998  |
| 80° | 868  | 837  | 682  |
| 85° | 494  | 432  | 432  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 59.0   | 4.0       |
| 10°-20°   | 165.5  | 11.3      |
| 20°-30°   | 242.8  | 16.6      |
| 30°-40°   | 278.0  | 19.1      |
| 40°-50°   | 270.9  | 18.6      |
| 50°-60°   | 225.1  | 15.4      |
| 60°-70°   | 144.8  | 9.9       |
| 70°-80°   | 62.6   | 4.3       |
| 80°-90°   | 10.5   | 0.7       |
| 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°    | 467.3  | 32.0      |
| 0°-40°    | 745.3  | 51.1      |
| 0°-60°    | 1241.3 | 85.1      |
| 0°-90°    | 1459.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1459.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 630 | 630   | 630 | 630   | 630 |      |
| 5°  | 626 | 624   | 623 | 621   | 621 | 59   |
| 15° | 583 | 584   | 588 | 590   | 590 | 164  |
| 25° | 518 | 520   | 529 | 535   | 534 | 238  |
| 35° | 433 | 436   | 448 | 453   | 451 | 271  |
| 45° | 342 | 347   | 356 | 355   | 352 | 264  |
| 55° | 247 | 253   | 256 | 253   | 247 | 221  |
| 65° | 151 | 155   | 156 | 134   | 122 | 150  |
| 75° | 62  | 64    | 61  | 50    | 48  | 67   |
| 85° | 8   | 9     | 7   | 7     | 7   | 11   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° |
|-------|-----|-------|-----|-------|-----|
| 0°    | 630 | 630   | 630 | 630   | 630 |
| 2.5°  | 630 | 629   | 626 | 623   | 621 |
| 5°    | 626 | 624   | 623 | 621   | 621 |
| 7.5°  | 618 | 617   | 617 | 616   | 617 |
| 10°   | 607 | 609   | 610 | 608   | 609 |
| 12.5° | 599 | 598   | 599 | 598   | 600 |
| 15°   | 583 | 584   | 588 | 590   | 590 |
| 17.5° | 568 | 571   | 575 | 579   | 580 |
| 20°   | 553 | 554   | 561 | 565   | 568 |
| 22.5° | 536 | 538   | 545 | 551   | 551 |
| 25°   | 518 | 520   | 529 | 535   | 534 |
| 27.5° | 497 | 501   | 513 | 517   | 518 |
| 30°   | 477 | 480   | 493 | 498   | 499 |
| 32.5° | 455 | 457   | 470 | 476   | 475 |
| 35°   | 433 | 436   | 448 | 453   | 451 |
| 37.5° | 411 | 413   | 426 | 429   | 425 |
| 40°   | 388 | 391   | 403 | 404   | 401 |
| 42.5° | 366 | 369   | 380 | 379   | 377 |
| 45°   | 342 | 347   | 356 | 355   | 352 |
| 47.5° | 319 | 324   | 332 | 331   | 328 |
| 50°   | 295 | 301   | 307 | 306   | 303 |
| 52.5° | 272 | 278   | 281 | 280   | 276 |
| 55°   | 247 | 253   | 256 | 253   | 247 |
| 57.5° | 224 | 229   | 231 | 225   | 215 |
| 60°   | 200 | 204   | 206 | 194   | 179 |
| 62.5° | 175 | 180   | 181 | 163   | 148 |
| 65°   | 151 | 155   | 156 | 134   | 122 |
| 67.5° | 128 | 131   | 131 | 108   | 101 |
| 70°   | 105 | 108   | 106 | 86    | 82  |
| 72.5° | 83  | 86    | 83  | 67    | 64  |
| 75°   | 62  | 64    | 61  | 50    | 48  |
| 77.5° | 44  | 46    | 43  | 35    | 33  |
| 80°   | 28  | 30    | 27  | 22    | 22  |
| 82.5° | 17  | 17    | 15  | 13    | 13  |
| 85°   | 8   | 9     | 7   | 7     | 7   |
| 87.5° | 3   | 3     | 3   | 3     | 3   |
| 90°   | 0   | 0     | 0   | 0     | 0   |

(END OF REPORT)