

Scaled data based on original data using  
LM-66-11 Electrical and Photometric Measurements of Single-Ended Compact  
Fluorescent Lamps

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: SHAPER

Report Number: 20069

Luminaire Tested: **271-14-CF2/26**

Issue Date: 3/3/2020

**Test Information**

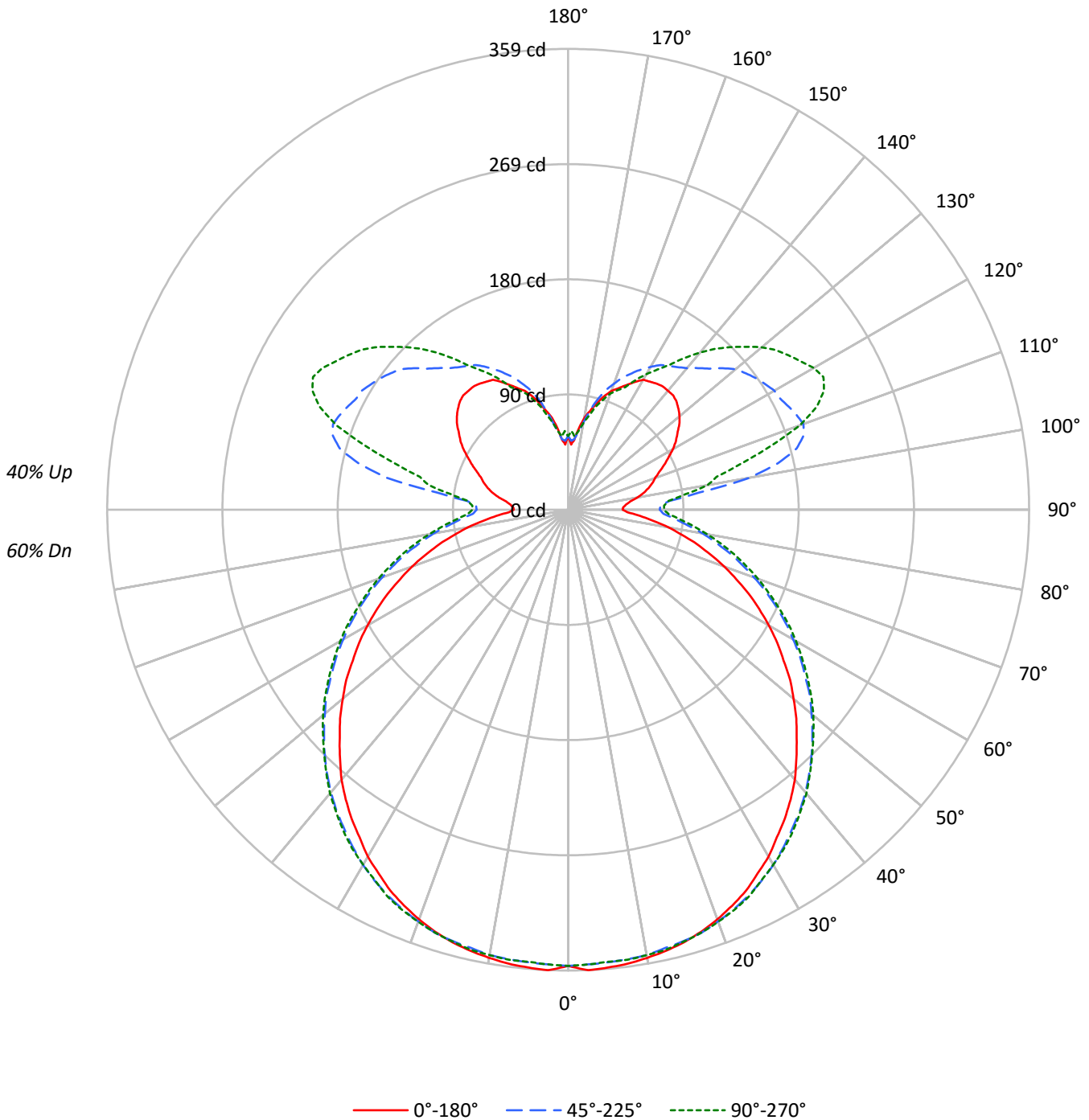
Test Method: LM-66-11  
Report Number: 20069  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: SHAPER  
Catalog Number: 271-14-CF2/26  
Description: INTERIOR CEILING MOUNT LUMINAIRE WITH WHITE INTERIOR AND WHITE  
PLASTIC LENS  
Light Source: TWO SYLVANIA 26 WATT CPFL LAMPS  
  
CF26DD/E/841. LUMEN RATING = 3600 LMS.  
  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 3600 (1 lamp)  
Luminaire Lumens: 2111.5 lumens  
Efficiency: 58.7%  
Efficacy: 43.1 lumens/watt  
Spacing Criteria (0/90/45): 1.3 / 1.34 / 1.46  
Luminous Opening: Rectangular w/ Sides (W: 1.08' x L: 1.08' x H: 0.25')  
CIE Type: Semi-Direct  
  
Input Watts (W): 49  
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 | 0  |
| RCR |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 64 | 64 | 64 | 64 | 60 | 60 | 60 | 60 | 52 | 52 | 52 | 45 | 45 | 45 | 38 | 38 | 38 | 35 |
| 1   | 58 | 55 | 52 | 49 | 54 | 51 | 49 | 46 | 44 | 42 | 41 | 38 | 37 | 35 | 32 | 31 | 30 | 27 |
| 2   | 52 | 47 | 43 | 39 | 48 | 44 | 40 | 37 | 38 | 35 | 33 | 33 | 31 | 29 | 28 | 26 | 25 | 22 |
| 3   | 47 | 41 | 36 | 32 | 44 | 38 | 34 | 31 | 33 | 30 | 27 | 29 | 26 | 24 | 24 | 22 | 20 | 18 |
| 4   | 43 | 36 | 31 | 27 | 40 | 34 | 29 | 26 | 29 | 26 | 23 | 25 | 22 | 20 | 21 | 19 | 17 | 15 |
| 5   | 39 | 32 | 27 | 23 | 37 | 30 | 25 | 22 | 26 | 22 | 19 | 23 | 20 | 17 | 19 | 17 | 15 | 13 |
| 6   | 36 | 29 | 24 | 20 | 34 | 27 | 22 | 19 | 23 | 20 | 17 | 20 | 17 | 15 | 17 | 15 | 13 | 11 |
| 7   | 33 | 26 | 21 | 17 | 31 | 24 | 20 | 16 | 21 | 17 | 15 | 18 | 15 | 13 | 16 | 13 | 11 | 10 |
| 8   | 31 | 23 | 19 | 15 | 29 | 22 | 18 | 15 | 19 | 16 | 13 | 17 | 14 | 12 | 14 | 12 | 10 | 9  |
| 9   | 29 | 21 | 17 | 14 | 27 | 20 | 16 | 13 | 18 | 14 | 12 | 15 | 12 | 10 | 13 | 11 | 9  | 8  |
| 10  | 27 | 20 | 15 | 12 | 25 | 18 | 14 | 12 | 16 | 13 | 10 | 14 | 11 | 9  | 12 | 10 | 8  | 7  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3280 | 3280 | 3280 |
| 5°  | 3251 | 3188 | 3210 |
| 10° | 3192 | 3121 | 3173 |
| 15° | 3138 | 3056 | 3133 |
| 20° | 3076 | 2996 | 3094 |
| 25° | 3011 | 2932 | 3058 |
| 30° | 2934 | 2863 | 3002 |
| 35° | 2850 | 2785 | 2961 |
| 40° | 2771 | 2716 | 2911 |
| 45° | 2667 | 2637 | 2849 |
| 50° | 2578 | 2556 | 2804 |
| 55° | 2475 | 2468 | 2750 |
| 60° | 2378 | 2384 | 2699 |
| 65° | 2265 | 2294 | 2641 |
| 70° | 2132 | 2188 | 2596 |
| 75° | 1988 | 2088 | 2554 |
| 80° | 1824 | 1979 | 2525 |
| 85° | 1632 | 1869 | 2544 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10°    | 33.7   | 1.6       | 0.9    |
| 10°-20°   | 98.1   | 4.6       | 2.7    |
| 20°-30°   | 152.2  | 7.2       | 4.2    |
| 30°-40°   | 188.8  | 8.9       | 5.2    |
| 40°-50°   | 204.3  | 9.7       | 5.7    |
| 50°-60°   | 198.1  | 9.4       | 5.5    |
| 60°-70°   | 172.4  | 8.2       | 4.8    |
| 70°-80°   | 132.3  | 6.3       | 3.7    |
| 80°-90°   | 87.9   | 4.2       | 2.4    |
| 90°-100°  | 88.1   | 4.2       | 2.4    |
| 100°-110° | 150.4  | 7.1       | 4.2    |
| 110°-120° | 167.8  | 7.9       | 4.7    |
| 120°-130° | 149.8  | 7.1       | 4.2    |
| 130°-140° | 119.9  | 5.7       | 3.3    |
| 140°-150° | 84.7   | 4.0       | 2.4    |
| 150°-160° | 52.3   | 2.5       | 1.5    |
| 160°-170° | 24.9   | 1.2       | 0.7    |
| 170°-180° | 5.8    | 0.3       | 0.2    |
| 0°-30°    | 284.0  | 13.4      | 7.9    |
| 0°-40°    | 472.8  | 22.4      | 13.1   |
| 0°-60°    | 875.2  | 41.4      | 24.3   |
| 0°-90°    | 1267.8 | 60.0      | 35.2   |
| 90°-120°  | 406.3  | 19.2      | 11.3   |
| 90°-150°  | 760.7  | 36.0      | 21.1   |
| 90°-180°  | 844.0  | 40.0      | 23.4   |
| 0°-180°   | 2111.5 | 100.0     | 58.7   |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 355 | 355   | 355 | 355   | 355 |      |
| 5°   | 358 | 355   | 354 | 350   | 354 | 34   |
| 15°  | 349 | 347   | 348 | 345   | 348 | 98   |
| 25°  | 328 | 329   | 332 | 330   | 333 | 151  |
| 35°  | 294 | 299   | 304 | 303   | 305 | 184  |
| 45°  | 252 | 261   | 268 | 269   | 269 | 195  |
| 55°  | 205 | 216   | 225 | 228   | 227 | 184  |
| 65°  | 155 | 168   | 179 | 182   | 181 | 153  |
| 75°  | 104 | 118   | 130 | 135   | 134 | 110  |
| 85°  | 56  | 71    | 84  | 89    | 88  | 51   |
| 90°  | 42  | 59    | 71  | 76    | 74  | 24   |
| 95°  | 45  | 64    | 79  | 87    | 78  | 39   |
| 105° | 65  | 134   | 184 | 155   | 140 | 68   |
| 115° | 82  | 129   | 190 | 213   | 220 | 82   |
| 125° | 104 | 129   | 178 | 205   | 210 | 93   |
| 135° | 119 | 138   | 155 | 176   | 179 | 92   |
| 145° | 120 | 133   | 137 | 138   | 138 | 75   |
| 155° | 107 | 114   | 117 | 109   | 105 | 50   |
| 165° | 86  | 88    | 89  | 85    | 83  | 25   |
| 175° | 55  | 57    | 55  | 56    | 57  | 6    |
| 180° | 57  | 57    | 57  | 57    | 57  |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 355.4 | 355.4 | 355.4 | 355.4 | 355.4 |
| 2.5°   | 359.1 | 355.8 | 354.6 | 350.8 | 354.6 |
| 5°     | 358.0 | 355.1 | 354.0 | 349.6 | 353.5 |
| 7.5°   | 356.7 | 353.3 | 353.2 | 350.2 | 353.7 |
| 10°    | 354.5 | 351.4 | 352.3 | 349.2 | 352.4 |
| 12.5°  | 352.0 | 349.8 | 349.7 | 347.5 | 351.1 |
| 15°    | 348.8 | 346.8 | 347.9 | 345.2 | 348.3 |
| 17.5°  | 344.7 | 343.1 | 345.5 | 342.5 | 345.4 |
| 20°    | 339.6 | 339.0 | 341.4 | 339.4 | 341.6 |
| 22.5°  | 333.8 | 334.0 | 337.0 | 334.9 | 337.6 |
| 25°    | 327.6 | 328.6 | 331.9 | 329.7 | 332.7 |
| 27.5°  | 319.5 | 321.4 | 326.0 | 324.3 | 325.7 |
| 30°    | 312.1 | 314.4 | 319.5 | 318.2 | 319.4 |
| 32.5°  | 302.5 | 307.2 | 311.9 | 310.9 | 313.0 |
| 35°    | 294.0 | 298.8 | 303.9 | 303.3 | 305.4 |
| 37.5°  | 284.5 | 290.3 | 296.1 | 295.8 | 296.9 |
| 40°    | 274.7 | 281.1 | 287.4 | 287.5 | 288.6 |
| 42.5°  | 263.0 | 270.9 | 278.0 | 278.3 | 278.7 |
| 45°    | 251.7 | 260.7 | 268.2 | 268.9 | 268.8 |
| 47.5°  | 240.9 | 250.3 | 257.9 | 258.8 | 259.0 |
| 50°    | 229.1 | 239.3 | 247.5 | 248.9 | 249.2 |
| 52.5°  | 217.9 | 228.3 | 237.1 | 238.5 | 238.6 |
| 55°    | 204.7 | 216.1 | 225.1 | 227.5 | 227.4 |
| 57.5°  | 193.1 | 204.7 | 214.3 | 216.5 | 216.2 |
| 60°    | 180.5 | 191.8 | 202.4 | 204.9 | 204.9 |
| 62.5°  | 167.7 | 179.9 | 190.9 | 193.2 | 193.4 |
| 65°    | 155.2 | 167.9 | 178.8 | 182.0 | 181.0 |
| 67.5°  | 141.8 | 155.6 | 166.4 | 170.0 | 169.0 |
| 70°    | 129.3 | 142.7 | 154.0 | 158.5 | 157.4 |
| 72.5°  | 116.1 | 130.5 | 141.7 | 146.4 | 145.2 |
| 75°    | 103.9 | 118.2 | 130.1 | 134.7 | 133.5 |
| 77.5°  | 90.8  | 105.3 | 117.3 | 122.2 | 121.6 |
| 80°    | 79.4  | 94.3  | 106.4 | 111.1 | 109.9 |
| 82.5°  | 66.7  | 82.4  | 94.0  | 100.0 | 98.3  |
| 85°    | 56.2  | 71.4  | 83.7  | 89.1  | 87.6  |
| 87.5°  | 46.3  | 62.3  | 74.4  | 79.9  | 78.2  |
| 90°    | 42.4  | 58.6  | 71.3  | 76.3  | 74.5  |
| 92.5°  | 42.9  | 59.5  | 71.8  | 77.6  | 74.8  |
| 95°    | 45.1  | 64.5  | 79.0  | 87.3  | 78.4  |
| 97.5°  | 48.7  | 88.5  | 103.1 | 106.7 | 91.8  |
| 100°   | 54.6  | 115.8 | 143.4 | 122.7 | 110.3 |
| 102.5° | 60.1  | 131.9 | 167.4 | 135.6 | 118.4 |
| 105°   | 64.6  | 133.8 | 184.2 | 155.3 | 140.1 |
| 107.5° | 68.7  | 133.5 | 192.2 | 176.0 | 165.6 |
| 110°   | 72.0  | 131.8 | 194.9 | 196.0 | 191.8 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 76.8  | 130.7 | 192.6 | 205.7 | 209.4 |
| 115°   | 82.4  | 129.3 | 189.6 | 212.7 | 219.8 |
| 117.5° | 88.0  | 127.4 | 186.5 | 213.4 | 224.1 |
| 120°   | 94.1  | 127.0 | 185.4 | 208.9 | 220.9 |
| 122.5° | 99.4  | 126.6 | 182.0 | 207.7 | 214.9 |
| 125°   | 103.8 | 128.8 | 178.5 | 204.7 | 209.5 |
| 127.5° | 109.1 | 131.0 | 174.5 | 200.2 | 204.1 |
| 130°   | 113.2 | 134.6 | 170.1 | 192.5 | 196.9 |
| 132.5° | 116.4 | 137.1 | 163.2 | 184.2 | 187.8 |
| 135°   | 119.3 | 138.3 | 155.4 | 176.5 | 179.0 |
| 137.5° | 120.9 | 138.3 | 149.6 | 168.3 | 170.1 |
| 140°   | 120.9 | 137.4 | 144.0 | 157.7 | 159.9 |
| 142.5° | 121.1 | 135.4 | 139.9 | 147.1 | 149.0 |
| 145°   | 119.9 | 133.0 | 136.8 | 137.7 | 137.8 |
| 147.5° | 118.3 | 131.3 | 133.6 | 129.4 | 129.4 |
| 150°   | 116.9 | 126.8 | 128.5 | 122.5 | 122.0 |
| 152.5° | 112.0 | 120.9 | 123.2 | 116.3 | 113.9 |
| 155°   | 107.1 | 114.5 | 117.3 | 109.3 | 105.3 |
| 157.5° | 102.5 | 108.5 | 111.6 | 104.6 | 100.8 |
| 160°   | 98.5  | 101.5 | 104.5 | 99.5  | 96.3  |
| 162.5° | 92.5  | 95.0  | 97.6  | 93.4  | 89.6  |
| 165°   | 85.8  | 88.3  | 89.3  | 85.3  | 83.2  |
| 167.5° | 78.8  | 80.6  | 79.3  | 75.8  | 75.1  |
| 170°   | 72.8  | 70.8  | 69.2  | 68.6  | 68.7  |
| 172.5° | 63.9  | 62.5  | 60.6  | 60.7  | 61.9  |
| 175°   | 54.6  | 57.1  | 55.2  | 55.6  | 57.1  |
| 177.5° | 50.8  | 52.7  | 53.7  | 58.8  | 61.3  |
| 180°   | 57.4  | 57.4  | 57.4  | 57.4  | 57.4  |

(END OF REPORT)