

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: CORELITE

Report Number: P183484

Luminaire Tested: **E2-WS-4L30-1D-UNV-4-STD**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P183484  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26967)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: CORELITE  
Catalog Number: E2-WS-4L30-1D-UNV-4-STD  
Description: CORELITE ELEMENT SUSPENDED DIRECT-INDIRECT LED LUMINAIRE, 4 FOOT.  
WaveStream WITH FROSTED LENS. 65% UP / 35% DOWN.  
Light Source: (336)3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5952.3 lumens  
Efficiency: N/A  
Efficacy: 93.4 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.48 / 1.47  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 3.58' x H: 0.21')  
CIE Type: Semi-Indirect

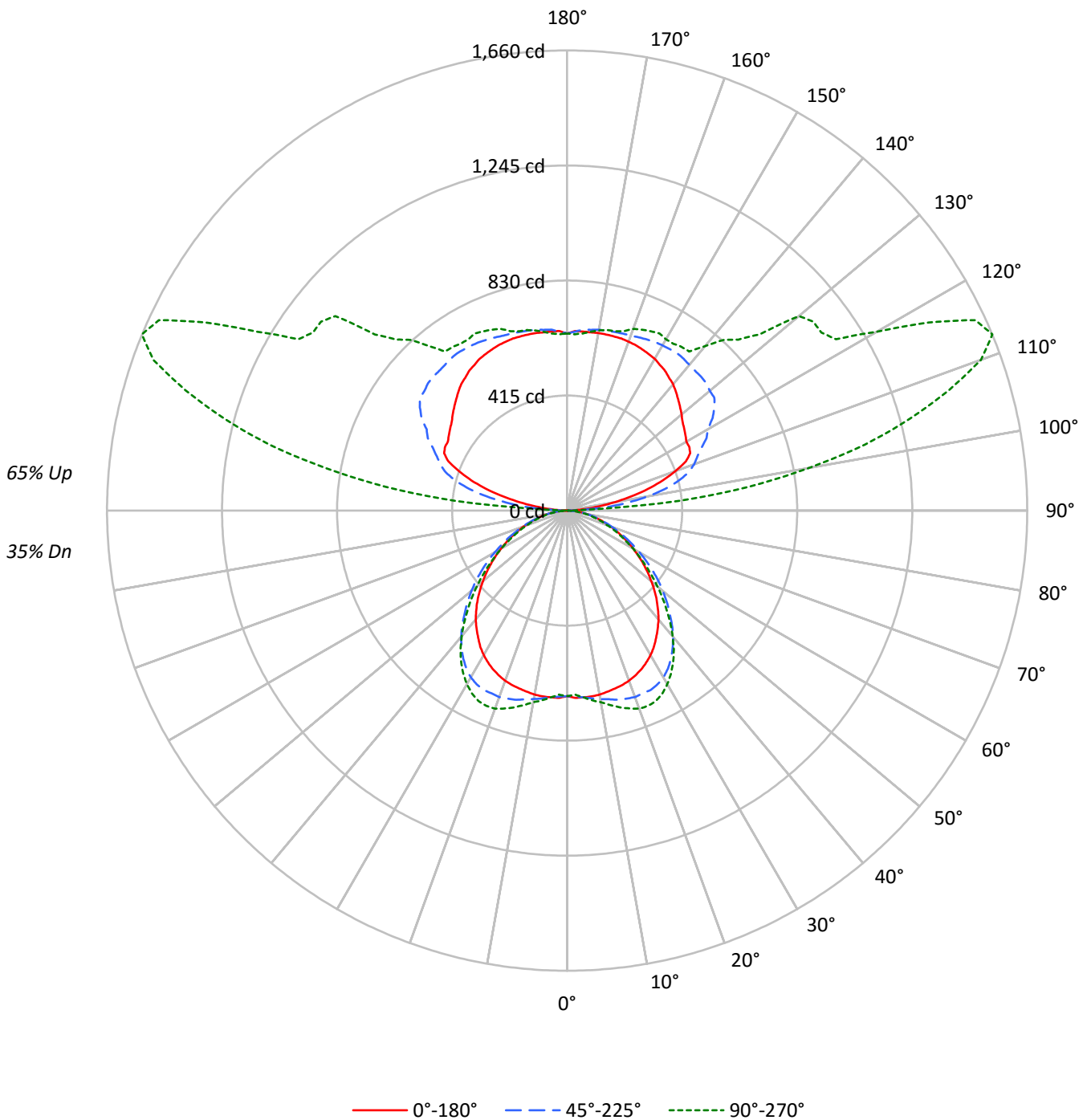
Input Watts (W): 63.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 104 | 104 | 104 | 104 | 94 | 94 | 94 | 94 | 75 | 75 | 75 | 58 | 58 | 58 | 42 | 42 | 42 | 35 |
| 1   | 94  | 90  | 86  | 83  | 85 | 82 | 78 | 76 | 66 | 63 | 61 | 51 | 49 | 48 | 37 | 36 | 36 | 29 |
| 2   | 86  | 79  | 73  | 68  | 77 | 71 | 66 | 62 | 57 | 54 | 51 | 45 | 42 | 40 | 33 | 31 | 30 | 25 |
| 3   | 78  | 69  | 62  | 56  | 71 | 63 | 57 | 52 | 51 | 46 | 43 | 39 | 36 | 34 | 29 | 27 | 26 | 21 |
| 4   | 72  | 61  | 53  | 48  | 64 | 56 | 49 | 44 | 45 | 40 | 36 | 35 | 32 | 29 | 26 | 24 | 22 | 18 |
| 5   | 66  | 54  | 46  | 41  | 59 | 49 | 43 | 37 | 40 | 35 | 31 | 31 | 28 | 25 | 23 | 21 | 19 | 16 |
| 6   | 60  | 49  | 41  | 35  | 54 | 44 | 37 | 32 | 36 | 31 | 27 | 28 | 25 | 22 | 21 | 19 | 17 | 14 |
| 7   | 56  | 44  | 36  | 31  | 50 | 40 | 33 | 28 | 33 | 27 | 24 | 26 | 22 | 19 | 19 | 17 | 15 | 12 |
| 8   | 52  | 40  | 32  | 27  | 47 | 36 | 29 | 25 | 30 | 25 | 21 | 23 | 20 | 17 | 18 | 15 | 13 | 11 |
| 9   | 48  | 36  | 29  | 24  | 43 | 33 | 26 | 22 | 27 | 22 | 19 | 21 | 18 | 15 | 16 | 14 | 12 | 10 |
| 10  | 45  | 33  | 26  | 21  | 40 | 30 | 24 | 20 | 25 | 20 | 17 | 20 | 16 | 14 | 15 | 13 | 11 | 9  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5361 | 5361 | 5361 |
| 5°  | 5411 | 5239 | 5186 |
| 10° | 5427 | 5216 | 5200 |
| 15° | 5427 | 5250 | 5303 |
| 20° | 5451 | 5270 | 5391 |
| 25° | 5439 | 5246 | 5321 |
| 30° | 5385 | 5140 | 5063 |
| 35° | 5259 | 4898 | 4696 |
| 40° | 5115 | 4559 | 4225 |
| 45° | 4894 | 4127 | 3703 |
| 50° | 4620 | 3697 | 3182 |
| 55° | 4330 | 3238 | 2688 |
| 60° | 4006 | 2751 | 2247 |
| 65° | 3694 | 2290 | 1816 |
| 70° | 3344 | 1844 | 1427 |
| 75° | 2965 | 1405 | 1081 |
| 80° | 2508 | 964  | 726  |
| 85° | 1933 | 540  | 350  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 64.8   | 1.1       |
| 10°-20°   | 198.7  | 3.3       |
| 20°-30°   | 322.8  | 5.4       |
| 30°-40°   | 393.1  | 6.6       |
| 40°-50°   | 387.2  | 6.5       |
| 50°-60°   | 320.6  | 5.4       |
| 60°-70°   | 223.4  | 3.8       |
| 70°-80°   | 123.4  | 2.1       |
| 80°-90°   | 37.4   | 0.6       |
| 90°-100°  | 218.2  | 3.7       |
| 100°-110° | 670.4  | 11.3      |
| 110°-120° | 785.2  | 13.2      |
| 120°-130° | 675.3  | 11.3      |
| 130°-140° | 543.4  | 9.1       |
| 140°-150° | 424.5  | 7.1       |
| 150°-160° | 313.5  | 5.3       |
| 160°-170° | 188.2  | 3.2       |
| 170°-180° | 62.2   | 1.0       |
| 0°-30°    | 586.4  | 9.9       |
| 0°-40°    | 979.5  | 16.5      |
| 0°-60°    | 1687.3 | 28.3      |
| 0°-90°    | 2071.4 | 34.8      |
| 90°-120°  | 1673.8 | 28.1      |
| 90°-150°  | 3317.0 | 55.7      |
| 90°-180°  | 3881.0 | 65.2      |
| 0°-180°   | 5952.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90°  | Flux |
|------|-----|-------|-----|-------|------|------|
| 0°   | 669 | 669   | 669 | 669   | 669  |      |
| 5°   | 676 | 669   | 676 | 676   | 676  | 64   |
| 15°  | 665 | 672   | 707 | 728   | 735  | 188  |
| 25°  | 632 | 653   | 714 | 749   | 758  | 291  |
| 35°  | 560 | 588   | 653 | 667   | 667  | 350  |
| 45°  | 457 | 485   | 522 | 520   | 508  | 352  |
| 55°  | 336 | 359   | 376 | 357   | 345  | 300  |
| 65°  | 219 | 233   | 233 | 219   | 210  | 217  |
| 75°  | 117 | 121   | 119 | 110   | 107  | 124  |
| 85°  | 35  | 37    | 35  | 30    | 28   | 36   |
| 90°  | 0   | 5     | 2   | 2     | 2    | 5    |
| 95°  | 61  | 79    | 142 | 359   | 406  | 74   |
| 105° | 303 | 320   | 417 | 1063  | 1280 | 315  |
| 115° | 490 | 499   | 534 | 1115  | 1625 | 473  |
| 125° | 515 | 578   | 648 | 961   | 1119 | 463  |
| 135° | 567 | 599   | 683 | 788   | 872  | 438  |
| 145° | 616 | 632   | 693 | 709   | 721  | 385  |
| 155° | 641 | 646   | 681 | 707   | 714  | 296  |
| 165° | 651 | 653   | 667 | 669   | 669  | 184  |
| 175° | 648 | 648   | 655 | 651   | 641  | 62   |
| 180° | 639 | 639   | 639 | 639   | 639  |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 0°     | 669.3 | 669.3 | 669.3 | 669.3  | 669.3  |
| 2.5°   | 676.3 | 669.3 | 671.6 | 671.6  | 664.6  |
| 5°     | 676.3 | 669.3 | 676.3 | 676.3  | 676.3  |
| 7.5°   | 676.3 | 671.6 | 683.3 | 687.9  | 690.3  |
| 10°    | 674.0 | 671.6 | 690.3 | 699.6  | 701.9  |
| 12.5°  | 669.3 | 671.6 | 697.3 | 713.6  | 718.3  |
| 15°    | 664.6 | 671.6 | 706.6 | 727.6  | 734.6  |
| 17.5°  | 660.0 | 669.3 | 711.3 | 739.3  | 748.6  |
| 20°    | 653.0 | 667.0 | 715.9 | 746.2  | 760.2  |
| 22.5°  | 643.6 | 660.0 | 713.6 | 748.6  | 762.6  |
| 25°    | 632.0 | 653.0 | 713.6 | 748.6  | 757.9  |
| 27.5°  | 618.0 | 641.3 | 706.6 | 739.3  | 743.9  |
| 30°    | 601.7 | 625.0 | 694.9 | 720.6  | 722.9  |
| 32.5°  | 583.0 | 611.0 | 676.3 | 694.9  | 697.3  |
| 35°    | 559.7 | 587.7 | 653.0 | 667.0  | 667.0  |
| 37.5°  | 536.4 | 566.7 | 625.0 | 632.0  | 632.0  |
| 40°    | 513.0 | 541.0 | 594.7 | 597.0  | 592.3  |
| 42.5°  | 485.1 | 513.0 | 559.7 | 559.7  | 550.4  |
| 45°    | 457.1 | 485.1 | 522.4 | 520.0  | 508.4  |
| 47.5°  | 426.8 | 454.7 | 487.4 | 478.1  | 466.4  |
| 50°    | 396.4 | 424.4 | 450.1 | 436.1  | 424.4  |
| 52.5°  | 366.1 | 394.1 | 412.8 | 396.4  | 384.8  |
| 55°    | 335.8 | 359.1 | 375.5 | 356.8  | 345.1  |
| 57.5°  | 305.5 | 326.5 | 338.1 | 319.5  | 307.8  |
| 60°    | 275.2 | 293.8 | 300.8 | 284.5  | 275.2  |
| 62.5°  | 247.2 | 263.5 | 265.9 | 249.5  | 240.2  |
| 65°    | 219.2 | 233.2 | 233.2 | 219.2  | 209.9  |
| 67.5°  | 191.2 | 202.9 | 200.6 | 188.9  | 181.9  |
| 70°    | 165.6 | 174.9 | 172.6 | 160.9  | 153.9  |
| 72.5°  | 139.9 | 146.9 | 144.6 | 135.3  | 130.6  |
| 75°    | 116.6 | 121.3 | 118.9 | 109.6  | 107.3  |
| 77.5°  | 93.3  | 97.9  | 95.6  | 88.6   | 84.0   |
| 80°    | 72.3  | 77.0  | 72.3  | 67.6   | 65.3   |
| 82.5°  | 51.3  | 56.0  | 53.6  | 49.0   | 46.6   |
| 85°    | 35.0  | 37.3  | 35.0  | 30.3   | 28.0   |
| 87.5°  | 16.3  | 18.7  | 16.3  | 11.7   | 11.7   |
| 90°    | 0.0   | 4.7   | 2.3   | 2.3    | 2.3    |
| 92.5°  | 23.3  | 32.6  | 44.3  | 74.6   | 51.3   |
| 95°    | 60.6  | 79.3  | 142.3 | 359.1  | 405.8  |
| 97.5°  | 114.3 | 132.9 | 221.5 | 571.3  | 662.3  |
| 100°   | 172.6 | 195.9 | 296.2 | 753.2  | 886.2  |
| 102.5° | 235.5 | 258.9 | 361.5 | 918.8  | 1100.7 |
| 105°   | 303.2 | 319.5 | 417.4 | 1063.4 | 1280.3 |
| 107.5° | 361.5 | 375.5 | 459.4 | 1170.7 | 1443.5 |
| 110°   | 415.1 | 424.4 | 487.4 | 1215.0 | 1588.1 |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 112.5° | 464.1 | 464.1 | 508.4 | 1187.0 | 1660.4 |
| 115°   | 489.7 | 499.1 | 534.0 | 1114.7 | 1625.4 |
| 117.5° | 496.7 | 524.7 | 566.7 | 1058.7 | 1469.2 |
| 120°   | 496.7 | 557.4 | 585.3 | 1023.8 | 1289.6 |
| 122.5° | 506.0 | 578.3 | 622.6 | 984.1  | 1149.7 |
| 125°   | 515.4 | 578.3 | 648.3 | 960.8  | 1119.4 |
| 127.5° | 524.7 | 571.3 | 669.3 | 951.5  | 1119.4 |
| 130°   | 538.7 | 578.3 | 671.6 | 893.2  | 1091.4 |
| 132.5° | 552.7 | 590.0 | 680.9 | 799.9  | 939.8  |
| 135°   | 566.7 | 599.3 | 683.3 | 788.2  | 872.2  |
| 137.5° | 580.7 | 606.3 | 683.3 | 774.2  | 834.9  |
| 140°   | 594.7 | 615.7 | 685.6 | 732.3  | 774.2  |
| 142.5° | 604.0 | 625.0 | 690.3 | 711.3  | 722.9  |
| 145°   | 615.7 | 632.0 | 692.6 | 708.9  | 720.6  |
| 147.5° | 622.6 | 636.6 | 690.3 | 708.9  | 713.6  |
| 150°   | 632.0 | 641.3 | 687.9 | 715.9  | 713.6  |
| 152.5° | 636.6 | 643.6 | 685.6 | 711.3  | 720.6  |
| 155°   | 641.3 | 646.0 | 680.9 | 706.6  | 713.6  |
| 157.5° | 646.0 | 648.3 | 676.3 | 699.6  | 706.6  |
| 160°   | 648.3 | 650.6 | 671.6 | 690.3  | 697.3  |
| 162.5° | 650.6 | 650.6 | 669.3 | 674.0  | 678.6  |
| 165°   | 650.6 | 653.0 | 667.0 | 669.3  | 669.3  |
| 167.5° | 650.6 | 655.3 | 664.6 | 667.0  | 667.0  |
| 170°   | 650.6 | 655.3 | 662.3 | 660.0  | 660.0  |
| 172.5° | 648.3 | 650.6 | 657.6 | 653.0  | 650.6  |
| 175°   | 648.3 | 648.3 | 655.3 | 650.6  | 641.3  |
| 177.5° | 648.3 | 643.6 | 646.0 | 641.3  | 636.6  |
| 180°   | 639.0 | 639.0 | 639.0 | 639.0  | 639.0  |

(END OF REPORT)