

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: HALO COMMERCIAL

Report Number: P252879

Luminaire Tested: **PRS415D010-S4M12-44SWDC-4000K**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P252879  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1804-748-2)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: PRS415D010-S4M12-44SWDC-4000K  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, SHALLOW TRIM SPECULAR  
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1311.0 lumens  
Efficiency: N/A  
Efficacy: 109.3 lumens/watt  
Spacing Criteria (0/90/45): 1.29 / 1.29 / 1.41  
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')  
CIE Type: Direct

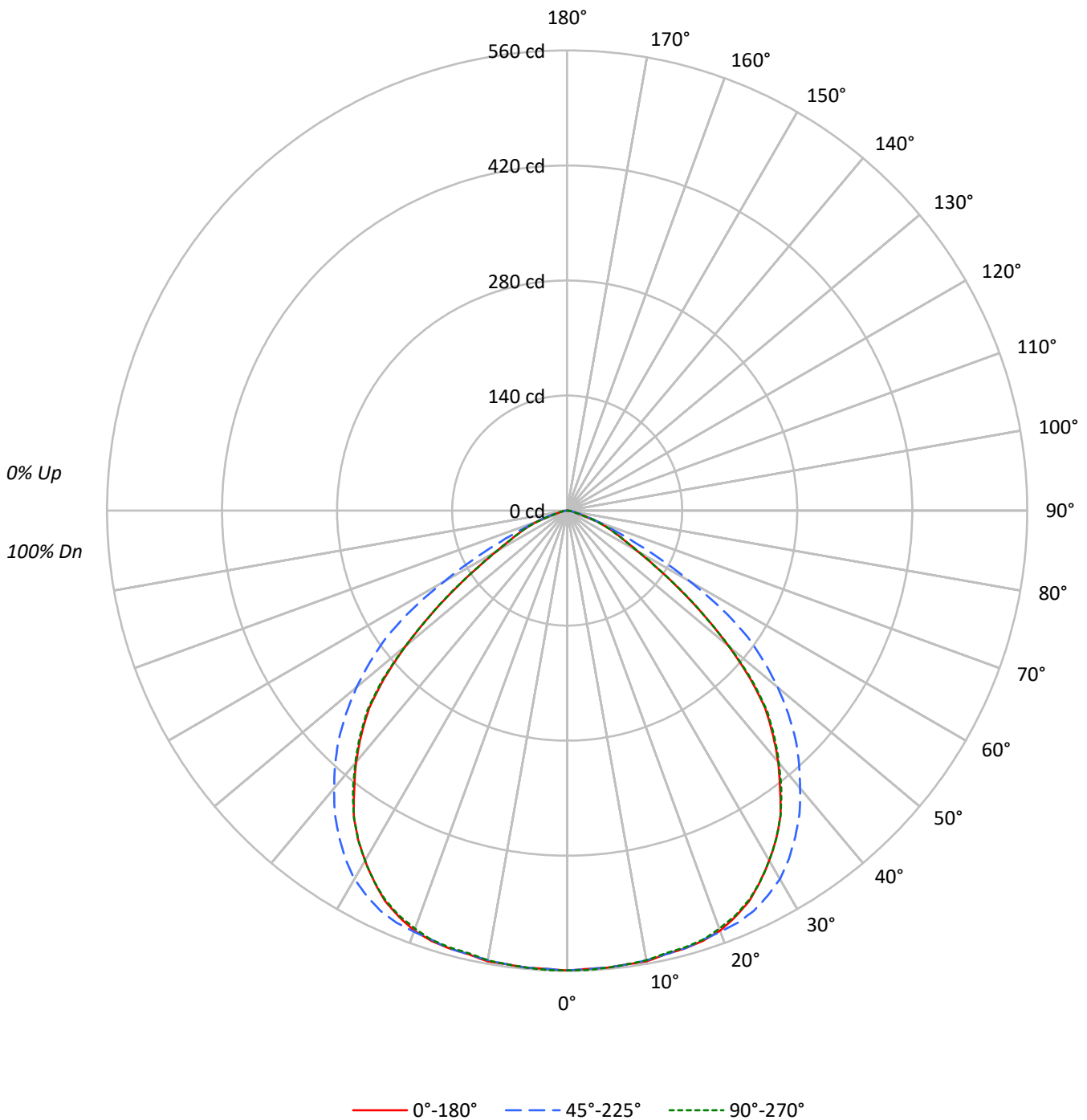
Input Watts (W): 12  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1   | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 94  | 92  | 90  | 88  |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 84  | 91  | 86  | 82  | 87  | 84  | 81  | 85  | 82  | 79  | 77  |
| 3   | 95  | 86  | 79  | 73  | 92  | 84  | 78  | 73  | 81  | 76  | 71  | 79  | 74  | 70  | 76  | 72  | 69  | 67  |
| 4   | 87  | 77  | 69  | 63  | 85  | 76  | 68  | 63  | 73  | 67  | 62  | 71  | 66  | 61  | 69  | 64  | 61  | 59  |
| 5   | 81  | 69  | 61  | 55  | 79  | 68  | 61  | 55  | 66  | 60  | 55  | 64  | 59  | 54  | 63  | 58  | 53  | 52  |
| 6   | 75  | 63  | 55  | 49  | 73  | 62  | 54  | 49  | 60  | 53  | 48  | 59  | 53  | 48  | 57  | 52  | 48  | 46  |
| 7   | 70  | 57  | 49  | 44  | 68  | 57  | 49  | 43  | 55  | 48  | 43  | 54  | 47  | 43  | 52  | 47  | 43  | 41  |
| 8   | 65  | 52  | 45  | 39  | 64  | 52  | 44  | 39  | 51  | 44  | 39  | 49  | 43  | 39  | 48  | 43  | 38  | 37  |
| 9   | 61  | 48  | 41  | 35  | 59  | 48  | 40  | 35  | 47  | 40  | 35  | 46  | 39  | 35  | 45  | 39  | 35  | 33  |
| 10  | 57  | 45  | 37  | 32  | 56  | 44  | 37  | 32  | 43  | 36  | 32  | 42  | 36  | 32  | 41  | 36  | 32  | 30  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 42834 | 42834 | 42834 |
| 5°  | 42897 | 42897 | 42897 |
| 10° | 43292 | 43191 | 43191 |
| 15° | 43727 | 43727 | 43624 |
| 20° | 44312 | 44418 | 44100 |
| 25° | 44289 | 45395 | 44179 |
| 30° | 43476 | 45774 | 43476 |
| 35° | 42320 | 45235 | 42320 |
| 40° | 39918 | 44085 | 40048 |
| 45° | 36913 | 42542 | 37194 |
| 50° | 30532 | 39820 | 30687 |
| 55° | 22406 | 35778 | 22580 |
| 60° | 15140 | 26499 | 15339 |
| 65° | 11555 | 16029 | 11555 |
| 70° | 8437  | 9019  | 8146  |
| 75° | 3460  | 4998  | 3460  |
| 80° | 2865  | 2865  | 2865  |
| 85° | 2283  | 2283  | 2283  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 53.2   | 4.1       |
| 10°-20°   | 155.9  | 11.9      |
| 20°-30°   | 243.6  | 18.6      |
| 30°-40°   | 291.3  | 22.2      |
| 40°-50°   | 280.0  | 21.4      |
| 50°-60°   | 188.1  | 14.3      |
| 60°-70°   | 76.8   | 5.9       |
| 70°-80°   | 19.1   | 1.5       |
| 80°-90°   | 3.0    | 0.2       |
| 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°    | 452.7  | 34.5      |
| 0°-40°    | 744.1  | 56.8      |
| 0°-60°    | 1212.1 | 92.5      |
| 0°-90°    | 1311.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1311.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 560 | 560   | 560 | 560   | 560 |      |
| 5°  | 558 | 558   | 558 | 558   | 558 | 53   |
| 15° | 552 | 552   | 552 | 550   | 550 | 156  |
| 25° | 524 | 530   | 538 | 528   | 523 | 241  |
| 35° | 453 | 466   | 484 | 467   | 453 | 281  |
| 45° | 341 | 366   | 393 | 367   | 344 | 258  |
| 55° | 168 | 203   | 268 | 204   | 169 | 152  |
| 65° | 64  | 72    | 88  | 72    | 64  | 64   |
| 75° | 12  | 13    | 17  | 13    | 12  | 17   |
| 85° | 3   | 3     | 3   | 3     | 3   | 3    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 559.6 | 559.6 | 559.6 | 559.6 | 559.6 |
| 2.5°  | 558.3 | 558.3 | 558.3 | 559.6 | 559.6 |
| 5°    | 558.3 | 558.3 | 558.3 | 558.3 | 558.3 |
| 7.5°  | 557.0 | 557.0 | 557.0 | 557.0 | 557.0 |
| 10°   | 557.0 | 555.7 | 555.7 | 555.7 | 555.7 |
| 12.5° | 553.1 | 553.1 | 553.1 | 553.1 | 551.8 |
| 15°   | 551.8 | 551.8 | 551.8 | 550.5 | 550.5 |
| 17.5° | 549.2 | 549.2 | 547.9 | 547.9 | 547.9 |
| 20°   | 544.0 | 545.3 | 545.3 | 544.0 | 541.4 |
| 22.5° | 534.9 | 538.8 | 542.7 | 537.5 | 533.6 |
| 25°   | 524.4 | 529.7 | 537.5 | 528.3 | 523.1 |
| 27.5° | 508.8 | 516.6 | 528.3 | 516.6 | 508.8 |
| 30°   | 491.9 | 502.3 | 517.9 | 502.3 | 491.9 |
| 32.5° | 473.7 | 485.4 | 502.3 | 485.4 | 473.7 |
| 35°   | 452.9 | 465.9 | 484.1 | 467.2 | 452.9 |
| 37.5° | 425.5 | 443.8 | 464.6 | 446.4 | 428.1 |
| 40°   | 399.5 | 419.0 | 441.2 | 420.3 | 400.8 |
| 42.5° | 370.9 | 393.0 | 417.7 | 394.3 | 373.5 |
| 45°   | 341.0 | 365.7 | 393.0 | 367.0 | 343.6 |
| 47.5° | 301.9 | 331.8 | 364.4 | 335.7 | 304.5 |
| 50°   | 256.4 | 294.1 | 334.4 | 296.7 | 257.7 |
| 52.5° | 210.8 | 247.3 | 301.9 | 249.9 | 210.8 |
| 55°   | 167.9 | 203.0 | 268.1 | 204.3 | 169.2 |
| 57.5° | 128.8 | 160.1 | 223.8 | 162.7 | 128.8 |
| 60°   | 98.9  | 122.3 | 173.1 | 123.6 | 100.2 |
| 62.5° | 78.1  | 92.4  | 127.5 | 91.1  | 78.1  |
| 65°   | 63.8  | 71.6  | 88.5  | 71.6  | 63.8  |
| 67.5° | 50.8  | 56.0  | 58.6  | 56.0  | 50.8  |
| 70°   | 37.7  | 42.9  | 40.3  | 42.9  | 36.4  |
| 72.5° | 22.1  | 27.3  | 27.3  | 27.3  | 20.8  |
| 75°   | 11.7  | 13.0  | 16.9  | 13.0  | 11.7  |
| 77.5° | 9.1   | 9.1   | 10.4  | 9.1   | 9.1   |
| 80°   | 6.5   | 6.5   | 6.5   | 6.5   | 6.5   |
| 82.5° | 3.9   | 3.9   | 3.9   | 3.9   | 3.9   |
| 85°   | 2.6   | 2.6   | 2.6   | 2.6   | 2.6   |
| 87.5° | 1.3   | 1.3   | 1.3   | 1.3   | 1.3   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)