

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: P241729

Luminaire Tested: **PRS415D010-S4M12-44SNDH**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P241729  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-43)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: PRS415D010-S4M12-44SNDH  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" NARROW DISTRIBUTION, SHALLOW TRIM HAZE  
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

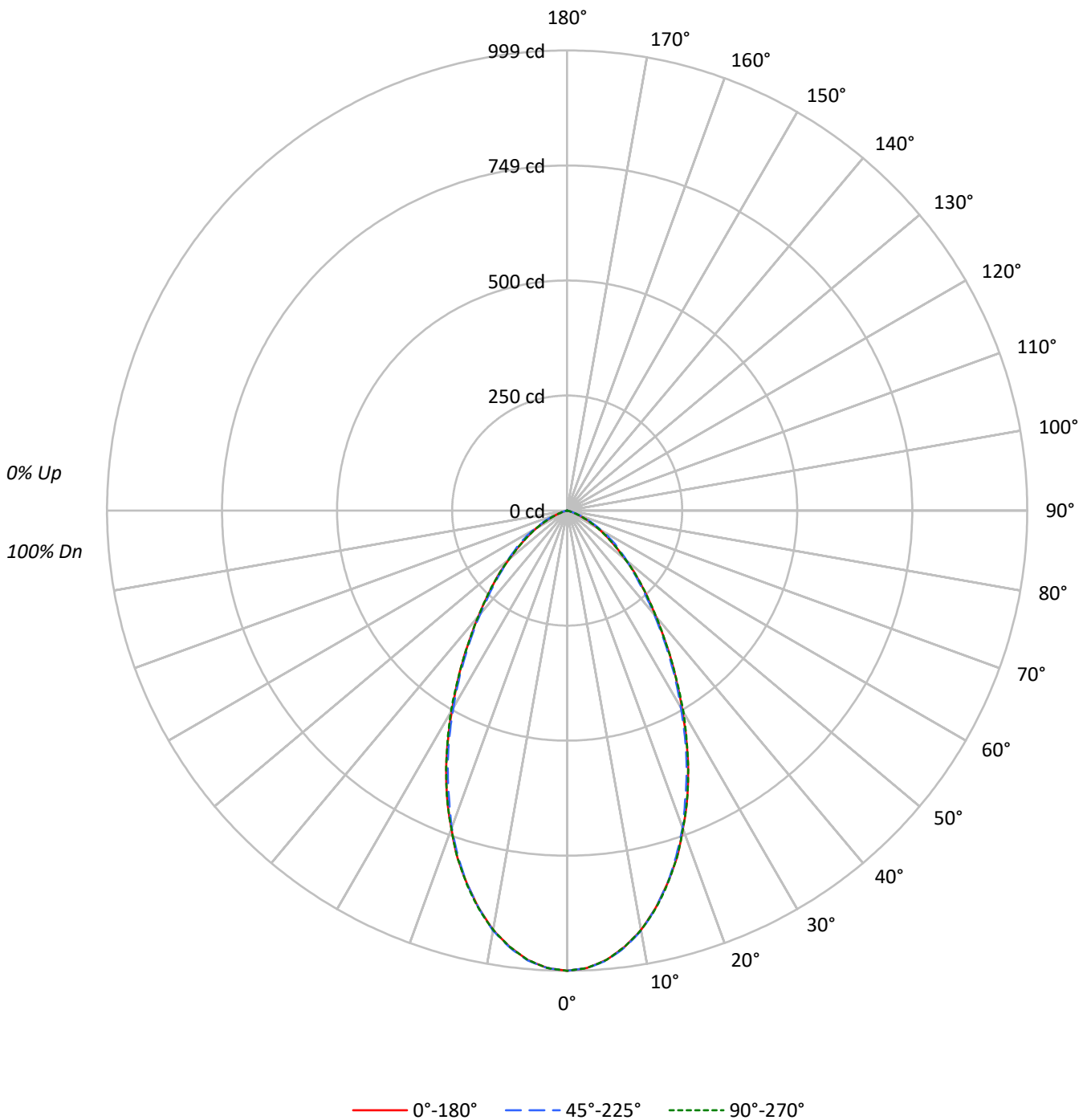
Lumens per Lamp: N/A  
Luminaire Lumens: 1191.2 lumens  
Efficiency: N/A  
Efficacy: 99.3 lumens/watt  
Spacing Criteria (0/90/45): 0.88 / 0.88 / 0.92  
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')  
CIE Type: Direct

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  | 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   | 112 | 109 | 106 | 103 | 110 | 107 | 104 | 102 | 103 | 100 | 98  | 99  | 97  | 95  | 95  | 94  | 93  | 91  |    |    |    | 91  |
| 2   | 105 | 99  | 94  | 90  | 103 | 97  | 93  | 89  | 94  | 90  | 87  | 91  | 88  | 85  | 88  | 86  | 83  | 81  |    |    |    | 81  |
| 3   | 98  | 90  | 84  | 79  | 96  | 89  | 83  | 79  | 86  | 81  | 77  | 84  | 80  | 76  | 81  | 78  | 75  | 73  |    |    |    | 73  |
| 4   | 92  | 83  | 76  | 71  | 90  | 81  | 75  | 70  | 79  | 74  | 69  | 77  | 72  | 69  | 75  | 71  | 68  | 66  |    |    |    | 66  |
| 5   | 86  | 76  | 69  | 64  | 84  | 75  | 68  | 63  | 73  | 67  | 63  | 71  | 66  | 62  | 70  | 65  | 62  | 60  |    |    |    | 60  |
| 6   | 81  | 70  | 63  | 58  | 79  | 69  | 62  | 58  | 68  | 62  | 57  | 66  | 61  | 57  | 65  | 60  | 56  | 55  |    |    |    | 55  |
| 7   | 76  | 65  | 58  | 53  | 74  | 64  | 57  | 53  | 63  | 57  | 52  | 62  | 56  | 52  | 60  | 55  | 52  | 50  |    |    |    | 50  |
| 8   | 72  | 60  | 53  | 49  | 70  | 60  | 53  | 48  | 59  | 52  | 48  | 57  | 52  | 48  | 56  | 51  | 48  | 46  |    |    |    | 46  |
| 9   | 68  | 56  | 49  | 45  | 66  | 56  | 49  | 45  | 55  | 49  | 45  | 54  | 48  | 44  | 53  | 48  | 44  | 43  |    |    |    | 43  |
| 10  | 64  | 53  | 46  | 42  | 63  | 52  | 46  | 42  | 51  | 46  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 40  |    |    |    | 40  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 76482 | 76482 | 76482 |
| 5°  | 75238 | 75345 | 75238 |
| 10° | 71856 | 71965 | 71856 |
| 15° | 66493 | 66493 | 66604 |
| 20° | 59878 | 59658 | 59878 |
| 25° | 52506 | 51831 | 52506 |
| 30° | 44104 | 43627 | 44572 |
| 35° | 36648 | 36031 | 36648 |
| 40° | 29856 | 29327 | 29996 |
| 45° | 24551 | 23977 | 24692 |
| 50° | 19696 | 20017 | 19541 |
| 55° | 15493 | 16908 | 15493 |
| 60° | 11849 | 13074 | 11849 |
| 65° | 8223  | 9418  | 7969  |
| 70° | 4185  | 5371  | 4185  |
| 75° | 384   | 1567  | 384   |
| 80° | 0     | 0     | 0     |
| 85° | 0     | 0     | 0     |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 91.8   | 7.7       |
| 10°-20°   | 234.2  | 19.7      |
| 20°-30°   | 282.4  | 23.7      |
| 30°-40°   | 244.0  | 20.5      |
| 40°-50°   | 174.7  | 14.7      |
| 50°-60°   | 108.1  | 9.1       |
| 60°-70°   | 49.3   | 4.1       |
| 70°-80°   | 6.9    | 0.6       |
| 80°-90°   | 0.0    | 0.0       |
| 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°    | 608.3  | 51.1      |
| 0°-40°    | 852.3  | 71.6      |
| 0°-60°    | 1135.1 | 95.3      |
| 0°-90°    | 1191.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1191.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 999 | 999   | 999 | 999   | 999 |      |
| 5°  | 979 | 979   | 981 | 979   | 979 | 92   |
| 15° | 839 | 839   | 839 | 840   | 840 | 234  |
| 25° | 622 | 618   | 614 | 619   | 622 | 284  |
| 35° | 392 | 388   | 386 | 391   | 392 | 245  |
| 45° | 227 | 224   | 222 | 226   | 228 | 176  |
| 55° | 116 | 119   | 127 | 119   | 116 | 105  |
| 65° | 45  | 49    | 52  | 49    | 44  | 45   |
| 75° | 1   | 3     | 5   | 3     | 1   | 5    |
| 85° | 0   | 0     | 0   | 0     | 0   | 0    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 999.2 | 999.2 | 999.2 | 999.2 | 999.2 |
| 2.5°  | 993.9 | 993.9 | 993.9 | 993.9 | 993.9 |
| 5°    | 979.2 | 979.2 | 980.6 | 979.2 | 979.2 |
| 7.5°  | 955.2 | 956.6 | 956.6 | 956.6 | 955.2 |
| 10°   | 924.5 | 924.5 | 925.9 | 924.5 | 924.5 |
| 12.5° | 884.5 | 884.5 | 884.5 | 885.8 | 885.8 |
| 15°   | 839.1 | 839.1 | 839.1 | 840.5 | 840.5 |
| 17.5° | 791.1 | 789.8 | 787.1 | 788.5 | 791.1 |
| 20°   | 735.1 | 733.8 | 732.4 | 733.8 | 735.1 |
| 22.5° | 680.4 | 675.1 | 671.1 | 677.7 | 680.4 |
| 25°   | 621.7 | 617.7 | 613.7 | 619.0 | 621.7 |
| 27.5° | 560.3 | 557.7 | 553.7 | 557.7 | 561.7 |
| 30°   | 499.0 | 499.0 | 493.6 | 499.0 | 504.3 |
| 32.5° | 444.3 | 442.9 | 438.9 | 441.6 | 445.6 |
| 35°   | 392.2 | 388.2 | 385.6 | 390.9 | 392.2 |
| 37.5° | 342.9 | 341.5 | 337.5 | 341.5 | 342.9 |
| 40°   | 298.8 | 296.2 | 293.5 | 297.5 | 300.2 |
| 42.5° | 261.5 | 258.8 | 254.8 | 258.8 | 261.5 |
| 45°   | 226.8 | 224.1 | 221.5 | 225.5 | 228.1 |
| 47.5° | 196.1 | 194.8 | 192.1 | 194.8 | 196.1 |
| 50°   | 165.4 | 168.1 | 168.1 | 166.8 | 164.1 |
| 52.5° | 138.7 | 140.1 | 145.4 | 140.1 | 138.7 |
| 55°   | 116.1 | 118.7 | 126.7 | 118.7 | 116.1 |
| 57.5° | 96.1  | 98.7  | 105.4 | 98.7  | 96.1  |
| 60°   | 77.4  | 81.4  | 85.4  | 81.4  | 77.4  |
| 62.5° | 60.0  | 65.4  | 66.7  | 64.0  | 60.0  |
| 65°   | 45.4  | 49.4  | 52.0  | 49.4  | 44.0  |
| 67.5° | 30.7  | 36.0  | 37.4  | 36.0  | 30.7  |
| 70°   | 18.7  | 24.0  | 24.0  | 24.0  | 18.7  |
| 72.5° | 9.3   | 12.0  | 13.3  | 12.0  | 9.3   |
| 75°   | 1.3   | 2.7   | 5.3   | 2.7   | 1.3   |
| 77.5° | 0.0   | 0.0   | 1.3   | 0.0   | 0.0   |
| 80°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)