

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: P241651

Luminaire Tested: **PRS430D010-S4M24-44SMDMB-3000K**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P241651  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-38)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: PRS430D010-S4M24-44SMDMB-3000K  
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" MEDIUM DISTRIBUTION, SHALLOW TRIM MATTE BLACK  
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2276.3 lumens  
Efficiency: N/A  
Efficacy: 91.1 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1 / 1.06  
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')  
CIE Type: Direct

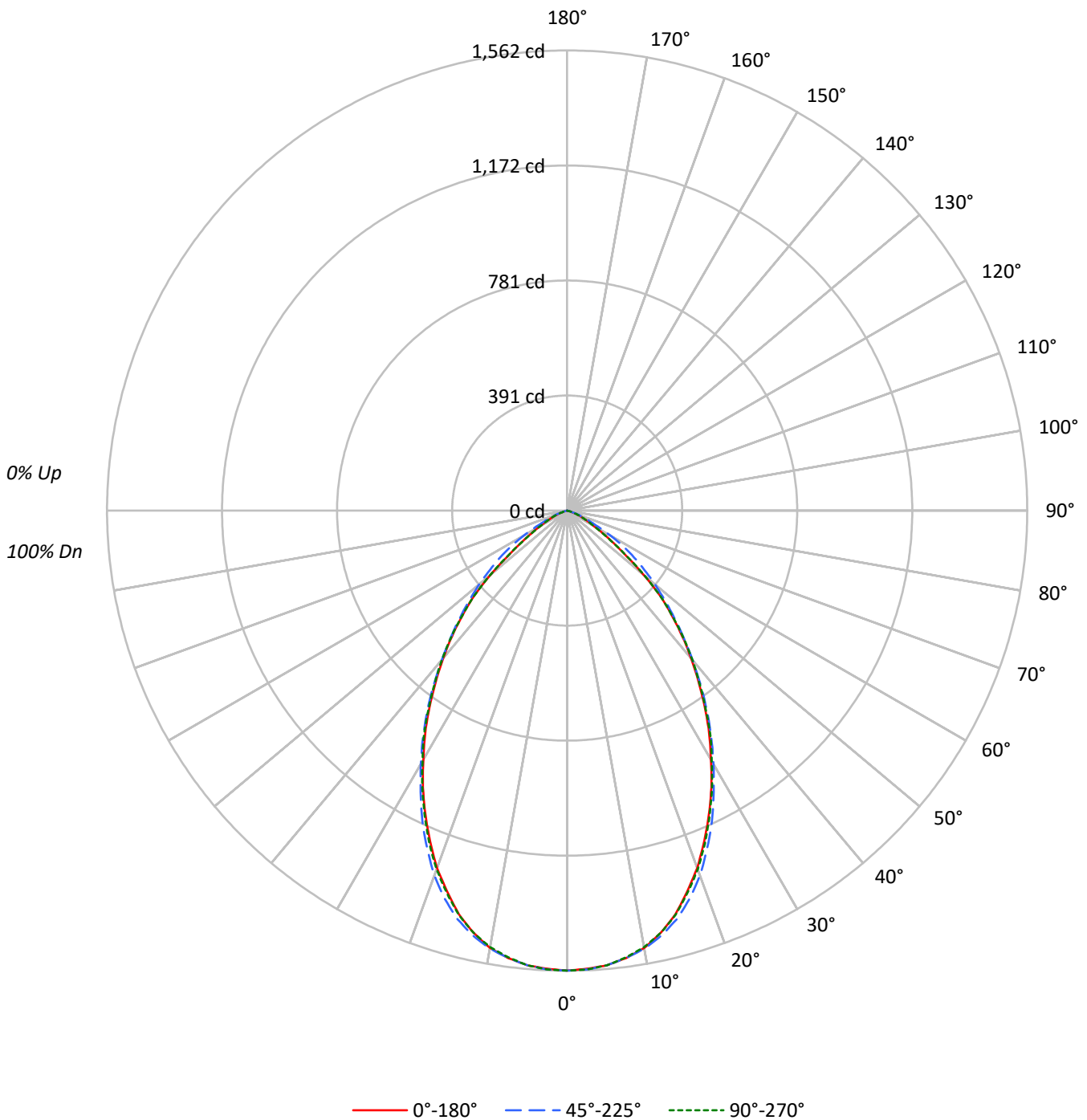
Input Watts (W): 25  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 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 | 101 | 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  | 85  | 83  | 81  |    |    |    |    | 81  |   |  |   |
| 3   | 98  | 90  | 84  | 79  | 96  | 88  | 83  | 78  | 86  | 81  | 77  | 83  | 79  | 76  | 81  | 77  | 74  | 73  |    |    |    |    | 73  |   |  |   |
| 4   | 91  | 82  | 75  | 70  | 89  | 81  | 74  | 70  | 78  | 73  | 69  | 76  | 72  | 68  | 74  | 70  | 67  | 65  |    |    |    |    | 65  |   |  |   |
| 5   | 85  | 75  | 68  | 63  | 84  | 74  | 67  | 62  | 72  | 66  | 62  | 70  | 65  | 61  | 69  | 64  | 61  | 59  |    |    |    |    | 59  |   |  |   |
| 6   | 80  | 69  | 62  | 56  | 78  | 68  | 61  | 56  | 66  | 60  | 56  | 65  | 60  | 55  | 64  | 59  | 55  | 53  |    |    |    |    | 53  |   |  |   |
| 7   | 75  | 64  | 56  | 51  | 73  | 63  | 56  | 51  | 62  | 55  | 51  | 60  | 55  | 50  | 59  | 54  | 50  | 48  |    |    |    |    | 48  |   |  |   |
| 8   | 70  | 59  | 52  | 47  | 69  | 58  | 51  | 47  | 57  | 51  | 46  | 56  | 50  | 46  | 55  | 50  | 46  | 44  |    |    |    |    | 44  |   |  |   |
| 9   | 66  | 55  | 48  | 43  | 65  | 54  | 48  | 43  | 53  | 47  | 43  | 52  | 47  | 43  | 51  | 46  | 42  | 41  |    |    |    |    | 41  |   |  |   |
| 10  | 63  | 51  | 44  | 40  | 61  | 51  | 44  | 40  | 50  | 44  | 39  | 49  | 43  | 39  | 48  | 43  | 39  | 38  |    |    |    |    | 38  |   |  |   |

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

|     | 0°     | 45°    | 90°    |
|-----|--------|--------|--------|
| 0°  | 119523 | 119523 | 119523 |
| 5°  | 119034 | 119034 | 119034 |
| 10° | 117161 | 117348 | 116967 |
| 15° | 112439 | 113802 | 112629 |
| 20° | 105159 | 107359 | 105559 |
| 25° | 96153  | 98231  | 96567  |
| 30° | 86281  | 87801  | 86714  |
| 35° | 76053  | 77202  | 76520  |
| 40° | 65358  | 66097  | 66097  |
| 45° | 54298  | 55629  | 54568  |
| 50° | 40404  | 46263  | 40702  |
| 55° | 25596  | 37086  | 25262  |
| 60° | 16181  | 25979  | 15814  |
| 65° | 10686  | 14689  | 10686  |
| 70° | 6043   | 7699   | 6043   |
| 75° | 0      | 2188   | 0      |
| 80° | 0      | 0      | 0      |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 146.5  | 6.4       |
| 10°-20°   | 399.4  | 17.5      |
| 20°-30°   | 528.6  | 23.2      |
| 30°-40°   | 514.8  | 22.6      |
| 40°-50°   | 394.3  | 17.3      |
| 50°-60°   | 210.2  | 9.2       |
| 60°-70°   | 73.1   | 3.2       |
| 70°-80°   | 9.4    | 0.4       |
| 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°    | 1074.4 | 47.2      |
| 0°-40°    | 1589.3 | 69.8      |
| 0°-60°    | 2193.8 | 96.4      |
| 0°-90°    | 2276.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2276.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1562 | 1562  | 1562 | 1562  | 1562 |      |
| 5°  | 1549 | 1549  | 1549 | 1549  | 1549 | 147  |
| 15° | 1419 | 1429  | 1436 | 1429  | 1421 | 397  |
| 25° | 1138 | 1156  | 1163 | 1156  | 1143 | 522  |
| 35° | 814  | 826   | 826  | 831   | 819  | 508  |
| 45° | 502  | 512   | 514  | 516   | 504  | 385  |
| 55° | 192  | 221   | 278  | 224   | 189  | 180  |
| 65° | 59   | 71    | 81   | 69    | 59   | 61   |
| 75° | 0    | 2     | 7    | 2     | 0    | 7    |
| 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°    | 1561.5 | 1561.5 | 1561.5 | 1561.5 | 1561.5 |
| 2.5°  | 1556.6 | 1556.6 | 1559.0 | 1556.6 | 1559.0 |
| 5°    | 1549.2 | 1549.2 | 1549.2 | 1549.2 | 1549.2 |
| 7.5°  | 1532.0 | 1532.0 | 1532.0 | 1532.0 | 1529.5 |
| 10°   | 1507.4 | 1507.4 | 1509.8 | 1507.4 | 1504.9 |
| 12.5° | 1468.0 | 1472.9 | 1477.9 | 1475.4 | 1468.0 |
| 15°   | 1418.9 | 1428.7 | 1436.1 | 1428.7 | 1421.3 |
| 17.5° | 1354.9 | 1367.2 | 1382.0 | 1369.7 | 1359.8 |
| 20°   | 1291.0 | 1300.8 | 1318.0 | 1305.7 | 1295.9 |
| 22.5° | 1214.8 | 1229.5 | 1241.8 | 1234.4 | 1222.1 |
| 25°   | 1138.5 | 1155.7 | 1163.1 | 1155.7 | 1143.4 |
| 27.5° | 1059.8 | 1072.1 | 1077.0 | 1079.5 | 1064.8 |
| 30°   | 976.2  | 991.0  | 993.4  | 995.9  | 981.1  |
| 32.5° | 897.5  | 909.8  | 909.8  | 917.2  | 904.9  |
| 35°   | 813.9  | 826.2  | 826.2  | 831.1  | 818.9  |
| 37.5° | 732.8  | 745.1  | 742.6  | 750.0  | 737.7  |
| 40°   | 654.1  | 663.9  | 661.5  | 666.4  | 661.5  |
| 42.5° | 577.9  | 587.7  | 585.2  | 590.2  | 582.8  |
| 45°   | 501.6  | 511.5  | 513.9  | 516.4  | 504.1  |
| 47.5° | 427.9  | 440.2  | 447.5  | 445.1  | 427.9  |
| 50°   | 339.3  | 368.9  | 388.5  | 373.8  | 341.8  |
| 52.5° | 253.3  | 295.1  | 329.5  | 297.5  | 258.2  |
| 55°   | 191.8  | 221.3  | 277.9  | 223.8  | 189.3  |
| 57.5° | 142.6  | 167.2  | 223.8  | 164.8  | 140.2  |
| 60°   | 105.7  | 125.4  | 169.7  | 123.0  | 103.3  |
| 62.5° | 78.7   | 93.4   | 118.0  | 91.0   | 78.7   |
| 65°   | 59.0   | 71.3   | 81.1   | 68.9   | 59.0   |
| 67.5° | 44.3   | 51.6   | 54.1   | 51.6   | 41.8   |
| 70°   | 27.0   | 34.4   | 34.4   | 34.4   | 27.0   |
| 72.5° | 12.3   | 17.2   | 19.7   | 17.2   | 12.3   |
| 75°   | 0.0    | 2.5    | 7.4    | 2.5    | 0.0    |
| 77.5° | 0.0    | 0.0    | 0.0    | 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)