

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: P241682

Luminaire Tested: **PRS440D010-S4M24-44SNDMW-3000K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P241682
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-40)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PRS440D010-S4M24-44SNDMW-3000K
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" NARROW DISTRIBUTION, SHALLOW TRIM MATTE WHITE
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3311.9 lumens
Efficiency: N/A
Efficacy: 87.2 lumens/watt
Spacing Criteria (0/90/45): 0.89 / 0.89 / 0.94
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

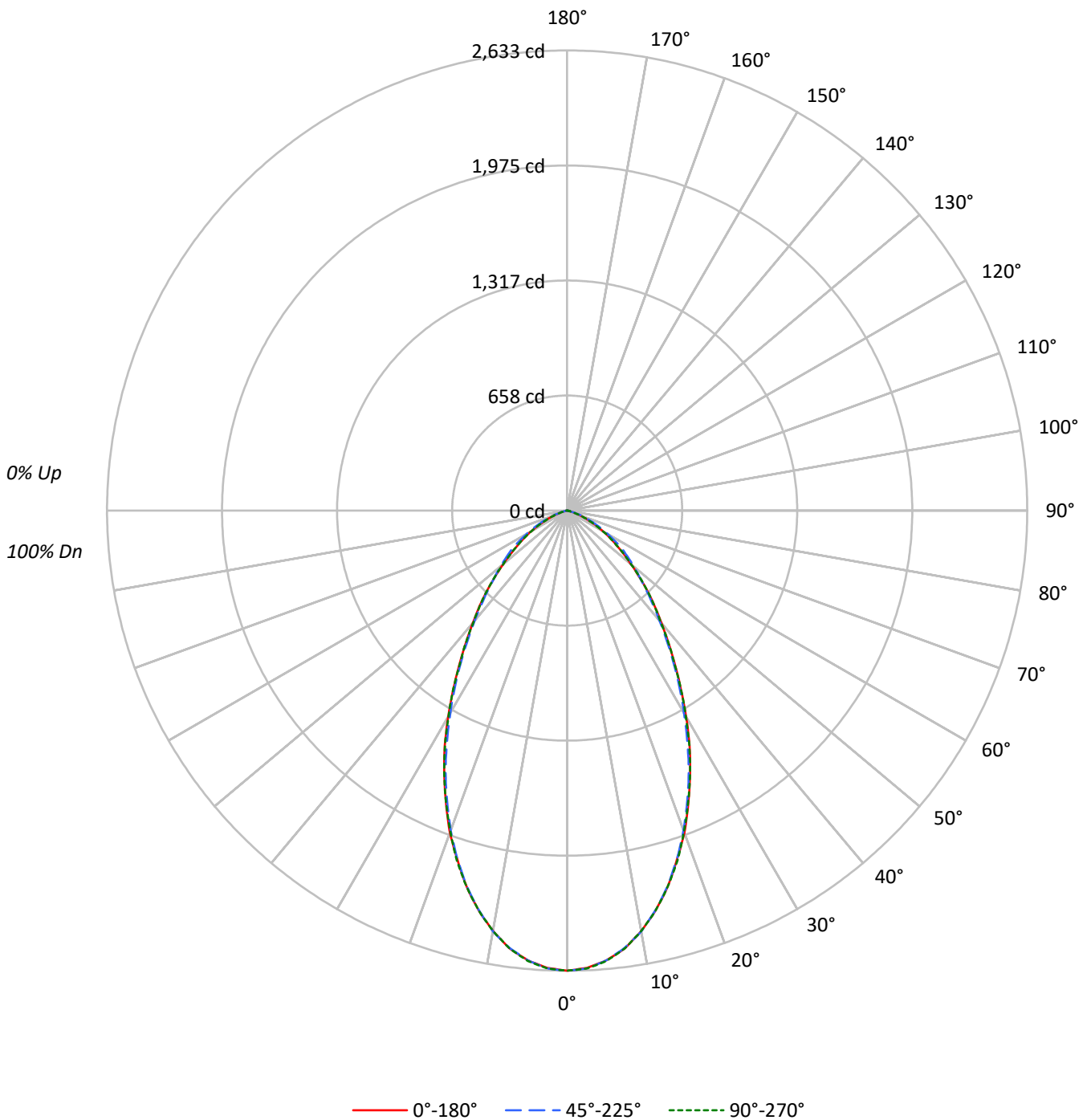
Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 108 | 105 | 103 | 109 | 106 | 104 | 101 | 102 | 100 | 98 | 98 | 97 | 95 | 95 | 93 | 92 | 90 | | | | | 90 | | | |
| 2 | 105 | 98 | 93 | 89 | 102 | 97 | 92 | 88 | 93 | 89 | 86 | 90 | 87 | 84 | 87 | 85 | 82 | 81 | | | | | 81 | | | |
| 3 | 98 | 89 | 83 | 78 | 95 | 88 | 82 | 78 | 85 | 80 | 76 | 83 | 78 | 75 | 80 | 77 | 74 | 72 | | | | | 72 | | | |
| 4 | 91 | 82 | 75 | 69 | 89 | 80 | 74 | 69 | 78 | 73 | 68 | 76 | 71 | 67 | 74 | 70 | 66 | 65 | | | | | 65 | | | |
| 5 | 85 | 75 | 68 | 62 | 83 | 74 | 67 | 62 | 72 | 66 | 61 | 70 | 65 | 61 | 68 | 64 | 60 | 58 | | | | | 58 | | | |
| 6 | 80 | 69 | 62 | 56 | 78 | 68 | 61 | 56 | 66 | 60 | 56 | 65 | 59 | 55 | 63 | 59 | 55 | 53 | | | | | 53 | | | |
| 7 | 75 | 64 | 56 | 51 | 73 | 63 | 56 | 51 | 62 | 55 | 51 | 60 | 55 | 51 | 59 | 54 | 50 | 49 | | | | | 49 | | | |
| 8 | 71 | 59 | 52 | 47 | 69 | 59 | 52 | 47 | 57 | 51 | 47 | 56 | 51 | 47 | 55 | 50 | 46 | 45 | | | | | 45 | | | |
| 9 | 67 | 55 | 48 | 43 | 65 | 55 | 48 | 43 | 54 | 47 | 43 | 53 | 47 | 43 | 52 | 47 | 43 | 41 | | | | | 41 | | | |
| 10 | 63 | 52 | 45 | 40 | 62 | 51 | 45 | 40 | 50 | 44 | 40 | 49 | 44 | 40 | 49 | 43 | 40 | 38 | | | | | 38 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 201516 | 201516 | 201516 |
| 5° | 198482 | 198482 | 198751 |
| 10° | 189795 | 190067 | 189795 |
| 15° | 176420 | 176143 | 176420 |
| 20° | 159759 | 158603 | 159181 |
| 25° | 140569 | 139083 | 140569 |
| 30° | 120247 | 118064 | 119938 |
| 35° | 100385 | 99058 | 100049 |
| 40° | 83683 | 82274 | 83334 |
| 45° | 70004 | 68857 | 70383 |
| 50° | 56813 | 59338 | 56813 |
| 55° | 45746 | 51405 | 46214 |
| 60° | 36251 | 40568 | 36251 |
| 65° | 26244 | 30717 | 26244 |
| 70° | 15823 | 19761 | 15823 |
| 75° | 5235 | 8369 | 5235 |
| 80° | 4672 | 4672 | 4672 |
| 85° | 3074 | 3074 | 3074 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 242.2 | 7.3 |
| 10°-20° | 620.7 | 18.7 |
| 20°-30° | 757.4 | 22.9 |
| 30°-40° | 669.4 | 20.2 |
| 40°-50° | 499.6 | 15.1 |
| 50°-60° | 324.0 | 9.8 |
| 60°-70° | 159.6 | 4.8 |
| 70°-80° | 34.6 | 1.0 |
| 80°-90° | 4.3 | 0.1 |
| 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° | 1620.3 | 48.9 |
| 0°-40° | 2289.7 | 69.1 |
| 0°-60° | 3113.3 | 94.0 |
| 0°-90° | 3311.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3311.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2633 | 2633 | 2633 | 2633 | 2633 | |
| 5° | 2583 | 2583 | 2583 | 2587 | 2587 | 242 |
| 15° | 2226 | 2226 | 2223 | 2226 | 2226 | 621 |
| 25° | 1664 | 1661 | 1647 | 1657 | 1664 | 762 |
| 35° | 1074 | 1067 | 1060 | 1067 | 1071 | 675 |
| 45° | 647 | 647 | 636 | 643 | 650 | 500 |
| 55° | 343 | 353 | 385 | 357 | 346 | 311 |
| 65° | 145 | 163 | 170 | 159 | 145 | 147 |
| 75° | 18 | 21 | 28 | 21 | 18 | 30 |
| 85° | 4 | 4 | 4 | 4 | 4 | 4 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P241682

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2632.7 | 2632.7 | 2632.7 | 2632.7 | 2632.7 |
| 2.5° | 2618.6 | 2618.6 | 2622.1 | 2622.1 | 2622.1 |
| 5° | 2583.2 | 2583.2 | 2583.2 | 2586.7 | 2586.7 |
| 7.5° | 2526.7 | 2523.1 | 2523.1 | 2526.7 | 2526.7 |
| 10° | 2441.9 | 2441.9 | 2445.4 | 2438.3 | 2441.9 |
| 12.5° | 2342.9 | 2342.9 | 2339.4 | 2342.9 | 2342.9 |
| 15° | 2226.3 | 2226.3 | 2222.8 | 2226.3 | 2226.3 |
| 17.5° | 2092.0 | 2092.0 | 2088.5 | 2095.5 | 2099.1 |
| 20° | 1961.3 | 1957.7 | 1947.1 | 1954.2 | 1954.2 |
| 22.5° | 1812.8 | 1809.3 | 1795.2 | 1805.8 | 1809.3 |
| 25° | 1664.4 | 1660.9 | 1646.8 | 1657.4 | 1664.4 |
| 27.5° | 1516.0 | 1501.9 | 1487.7 | 1505.4 | 1512.5 |
| 30° | 1360.5 | 1349.9 | 1335.8 | 1349.9 | 1357.0 |
| 32.5° | 1212.1 | 1208.6 | 1194.4 | 1205.0 | 1212.1 |
| 35° | 1074.3 | 1067.2 | 1060.1 | 1067.2 | 1070.7 |
| 37.5° | 950.6 | 943.5 | 932.9 | 943.5 | 950.6 |
| 40° | 837.5 | 830.4 | 823.4 | 826.9 | 834.0 |
| 42.5° | 742.1 | 735.0 | 724.4 | 731.5 | 738.6 |
| 45° | 646.7 | 646.7 | 636.1 | 643.2 | 650.2 |
| 47.5° | 558.3 | 565.4 | 561.9 | 565.4 | 561.9 |
| 50° | 477.1 | 491.2 | 498.3 | 491.2 | 477.1 |
| 52.5° | 406.4 | 417.0 | 438.2 | 417.0 | 406.4 |
| 55° | 342.8 | 353.4 | 385.2 | 356.9 | 346.3 |
| 57.5° | 289.8 | 300.4 | 325.1 | 300.4 | 289.8 |
| 60° | 236.8 | 250.9 | 265.0 | 250.9 | 236.8 |
| 62.5° | 190.8 | 205.0 | 215.6 | 205.0 | 187.3 |
| 65° | 144.9 | 162.6 | 169.6 | 159.0 | 144.9 |
| 67.5° | 106.0 | 120.1 | 127.2 | 120.1 | 106.0 |
| 70° | 70.7 | 84.8 | 88.3 | 84.8 | 70.7 |
| 72.5° | 42.4 | 53.0 | 53.0 | 49.5 | 42.4 |
| 75° | 17.7 | 21.2 | 28.3 | 21.2 | 17.7 |
| 77.5° | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 |
| 80° | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 |
| 82.5° | 7.1 | 7.1 | 7.1 | 7.1 | 7.1 |
| 85° | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| 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)