

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: P241702

Luminaire Tested: **PRS440D010-S4M24-44SMDMW**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P241702
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-41)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PRS440D010-S4M24-44SMDMW
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" MEDIUM DISTRIBUTION, SHALLOW TRIM MATTE WHITE
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4114.0 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.01 / 1.08
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

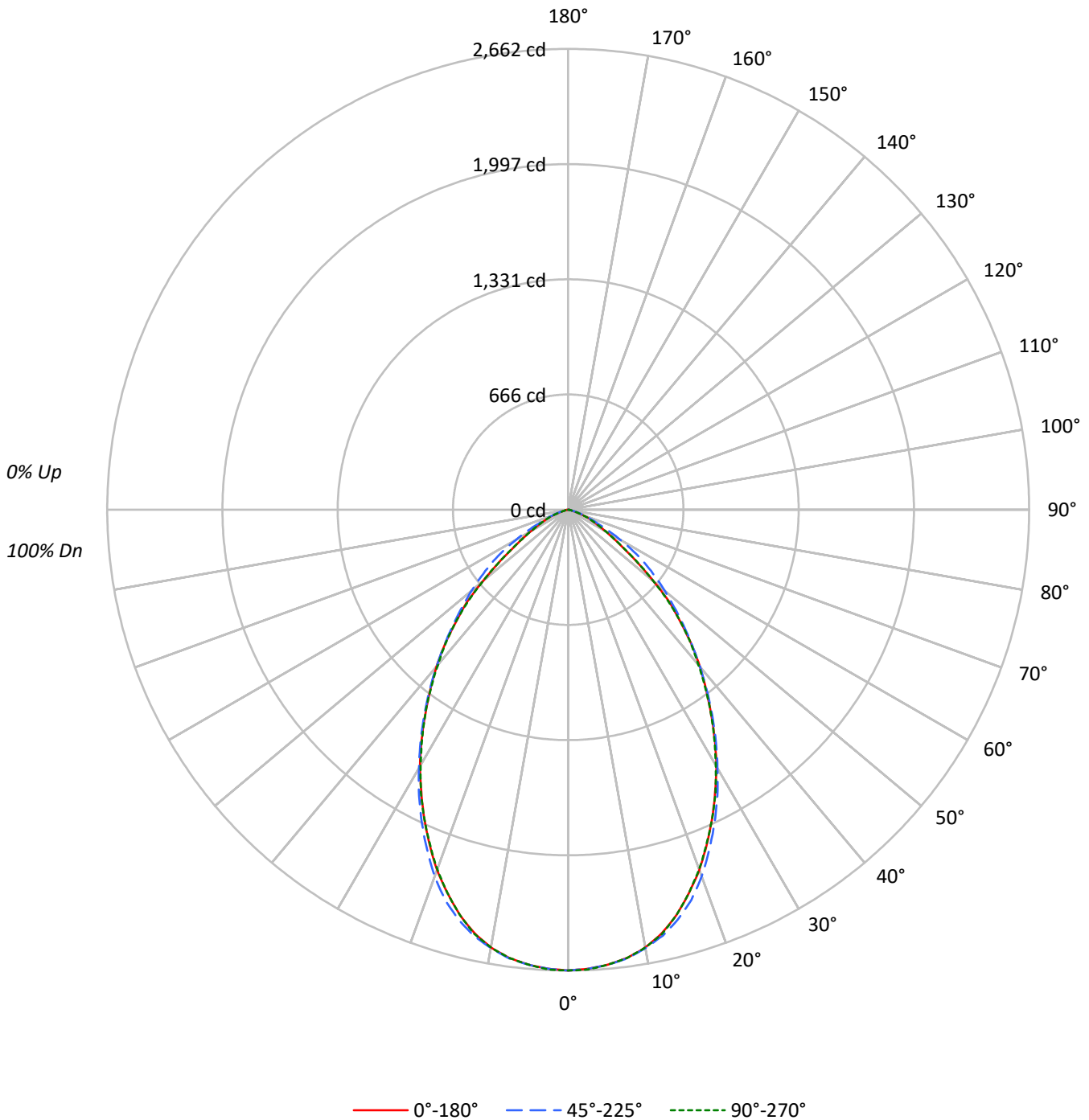
Input Watts (W): 38
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 102 | 109 | 106 | 103 | 101 | 102 | 100 | 98 | 98 | 96 | 95 | 95 | 93 | 92 | 90 | | | | | 90 | | | |
| 2 | 104 | 98 | 93 | 88 | 102 | 96 | 91 | 87 | 93 | 89 | 85 | 90 | 86 | 84 | 87 | 84 | 82 | 80 | | | | | 80 | | | |
| 3 | 97 | 89 | 82 | 77 | 95 | 87 | 81 | 77 | 84 | 79 | 75 | 82 | 78 | 74 | 79 | 76 | 73 | 71 | | | | | 71 | | | |
| 4 | 90 | 81 | 74 | 68 | 88 | 79 | 73 | 68 | 77 | 71 | 67 | 75 | 70 | 66 | 73 | 69 | 65 | 63 | | | | | 63 | | | |
| 5 | 84 | 74 | 66 | 61 | 82 | 73 | 66 | 60 | 71 | 65 | 60 | 69 | 64 | 59 | 67 | 62 | 59 | 57 | | | | | 57 | | | |
| 6 | 79 | 68 | 60 | 55 | 77 | 67 | 60 | 54 | 65 | 59 | 54 | 63 | 58 | 54 | 62 | 57 | 53 | 51 | | | | | 51 | | | |
| 7 | 74 | 62 | 55 | 49 | 72 | 61 | 54 | 49 | 60 | 54 | 49 | 59 | 53 | 49 | 57 | 52 | 48 | 47 | | | | | 47 | | | |
| 8 | 69 | 57 | 50 | 45 | 68 | 57 | 50 | 45 | 56 | 49 | 45 | 54 | 49 | 45 | 53 | 48 | 44 | 43 | | | | | 43 | | | |
| 9 | 65 | 53 | 46 | 41 | 64 | 53 | 46 | 41 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 39 | | | | | 39 | | | |
| 10 | 61 | 50 | 43 | 38 | 60 | 49 | 43 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 47 | 41 | 38 | 36 | | | | | 36 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 203743 | 203743 | 203743 |
| 5° | 202716 | 202716 | 202716 |
| 10° | 199565 | 199868 | 199565 |
| 15° | 191952 | 194131 | 191952 |
| 20° | 180368 | 183561 | 180042 |
| 25° | 166117 | 168769 | 166117 |
| 30° | 151288 | 152331 | 150599 |
| 35° | 134267 | 135370 | 134267 |
| 40° | 118076 | 118076 | 116897 |
| 45° | 99026 | 101570 | 99448 |
| 50° | 76676 | 86488 | 76676 |
| 55° | 52913 | 72303 | 53433 |
| 60° | 37858 | 53489 | 37858 |
| 65° | 28435 | 34122 | 27729 |
| 70° | 18441 | 21955 | 19336 |
| 75° | 6979 | 11623 | 6979 |
| 80° | 5201 | 6920 | 5201 |
| 85° | 3425 | 3425 | 3425 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 249.8 | 6.1 |
| 10°-20° | 681.9 | 16.6 |
| 20°-30° | 911.0 | 22.1 |
| 30°-40° | 904.7 | 22.0 |
| 40°-50° | 719.5 | 17.5 |
| 50°-60° | 420.3 | 10.2 |
| 60°-70° | 177.1 | 4.3 |
| 70°-80° | 43.5 | 1.1 |
| 80°-90° | 6.3 | 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° | 1842.7 | 44.8 |
| 0°-40° | 2747.3 | 66.8 |
| 0°-60° | 3887.1 | 94.5 |
| 0°-90° | 4114.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4114.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2662 | 2662 | 2662 | 2662 | 2662 | |
| 5° | 2638 | 2638 | 2638 | 2638 | 2638 | 250 |
| 15° | 2422 | 2438 | 2450 | 2438 | 2422 | 678 |
| 25° | 1967 | 1994 | 1998 | 1990 | 1967 | 903 |
| 35° | 1437 | 1460 | 1449 | 1453 | 1437 | 899 |
| 45° | 915 | 938 | 938 | 938 | 919 | 706 |
| 55° | 396 | 452 | 542 | 452 | 400 | 370 |
| 65° | 157 | 173 | 188 | 173 | 153 | 158 |
| 75° | 24 | 28 | 39 | 31 | 24 | 37 |
| 85° | 4 | 4 | 4 | 4 | 4 | 6 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P241702

CATALOG NUMBER: PRS440D010-S4M24-44SMDMW

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2661.8 | 2661.8 | 2661.8 | 2661.8 | 2661.8 |
| 2.5° | 2654.0 | 2654.0 | 2654.0 | 2654.0 | 2657.9 |
| 5° | 2638.3 | 2638.3 | 2638.3 | 2638.3 | 2638.3 |
| 7.5° | 2610.8 | 2610.8 | 2614.7 | 2614.7 | 2610.8 |
| 10° | 2567.6 | 2567.6 | 2571.5 | 2571.5 | 2567.6 |
| 12.5° | 2504.8 | 2512.6 | 2520.5 | 2512.6 | 2508.7 |
| 15° | 2422.3 | 2438.0 | 2449.8 | 2438.0 | 2422.3 |
| 17.5° | 2320.3 | 2339.9 | 2363.4 | 2339.9 | 2320.3 |
| 20° | 2214.3 | 2233.9 | 2253.5 | 2230.0 | 2210.3 |
| 22.5° | 2092.5 | 2116.1 | 2127.9 | 2112.2 | 2088.6 |
| 25° | 1966.9 | 1994.4 | 1998.3 | 1990.5 | 1966.9 |
| 27.5° | 1837.4 | 1857.0 | 1864.8 | 1860.9 | 1841.3 |
| 30° | 1711.7 | 1731.4 | 1723.5 | 1727.4 | 1703.9 |
| 32.5° | 1574.3 | 1593.9 | 1586.1 | 1586.1 | 1570.4 |
| 35° | 1436.9 | 1460.5 | 1448.7 | 1452.6 | 1436.9 |
| 37.5° | 1307.4 | 1319.1 | 1315.2 | 1319.1 | 1303.4 |
| 40° | 1181.7 | 1189.6 | 1181.7 | 1189.6 | 1169.9 |
| 42.5° | 1052.2 | 1063.9 | 1056.1 | 1063.9 | 1048.2 |
| 45° | 914.8 | 938.3 | 938.3 | 938.3 | 918.7 |
| 47.5° | 797.0 | 816.6 | 828.4 | 816.6 | 785.2 |
| 50° | 643.9 | 702.7 | 726.3 | 698.8 | 643.9 |
| 52.5° | 510.4 | 569.3 | 632.1 | 569.3 | 514.3 |
| 55° | 396.5 | 451.5 | 541.8 | 451.5 | 400.4 |
| 57.5° | 314.1 | 353.3 | 447.6 | 353.3 | 314.1 |
| 60° | 247.3 | 278.7 | 349.4 | 278.7 | 247.3 |
| 62.5° | 196.3 | 219.9 | 259.1 | 219.9 | 196.3 |
| 65° | 157.0 | 172.7 | 188.4 | 172.7 | 153.1 |
| 67.5° | 121.7 | 133.5 | 137.4 | 133.5 | 117.8 |
| 70° | 82.4 | 98.1 | 98.1 | 98.1 | 86.4 |
| 72.5° | 51.0 | 62.8 | 66.7 | 62.8 | 51.0 |
| 75° | 23.6 | 27.5 | 39.3 | 31.4 | 23.6 |
| 77.5° | 19.6 | 19.6 | 19.6 | 19.6 | 19.6 |
| 80° | 11.8 | 15.7 | 15.7 | 15.7 | 11.8 |
| 82.5° | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| 85° | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| 87.5° | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)