

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: P241690

Luminaire Tested: **PRS420D010-S4M12-44SNDMW-4000K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P241690
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: PRS420D010-S4M12-44SNDMW-4000K
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" NARROW DISTRIBUTION, SHALLOW TRIM MATTE WHITE
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2031.2 lumens
Efficiency: N/A
Efficacy: 101.6 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

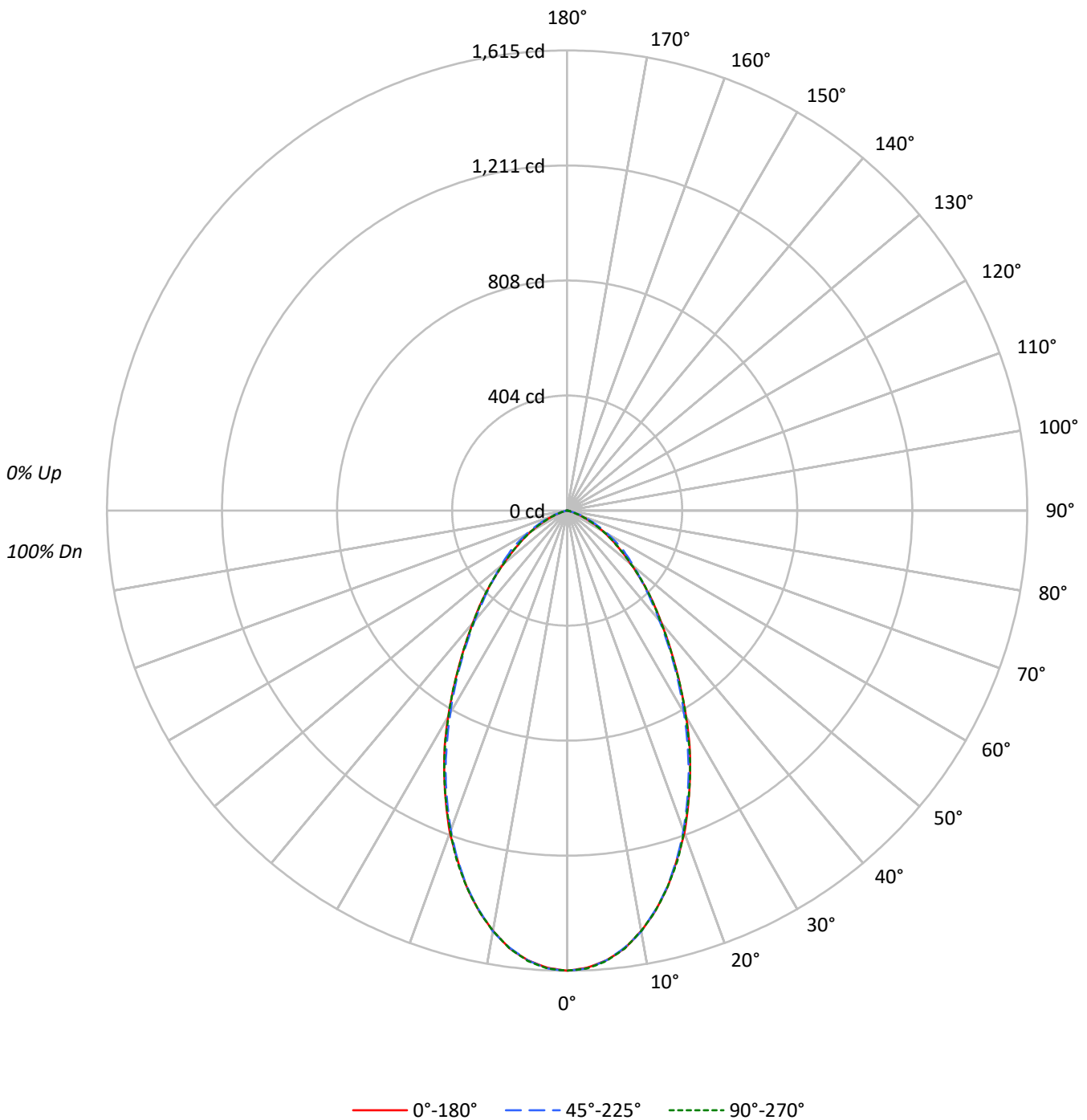
Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 123595 | 123595 | 123595 |
| 5° | 121731 | 121731 | 121900 |
| 10° | 116400 | 116571 | 116400 |
| 15° | 108199 | 108025 | 108199 |
| 20° | 97983 | 97274 | 97625 |
| 25° | 86213 | 85301 | 86213 |
| 30° | 73748 | 72405 | 73563 |
| 35° | 61569 | 60756 | 61364 |
| 40° | 51329 | 50460 | 51109 |
| 45° | 42931 | 42228 | 43170 |
| 50° | 34843 | 36391 | 34843 |
| 55° | 28051 | 31521 | 28345 |
| 60° | 22228 | 24877 | 22228 |
| 65° | 16101 | 18836 | 16101 |
| 70° | 9690 | 12130 | 9690 |
| 75° | 3194 | 5116 | 3194 |
| 80° | 2865 | 2865 | 2865 |
| 85° | 1932 | 1932 | 1932 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 148.5 | 7.3 |
| 10°-20° | 380.7 | 18.7 |
| 20°-30° | 464.5 | 22.9 |
| 30°-40° | 410.6 | 20.2 |
| 40°-50° | 306.4 | 15.1 |
| 50°-60° | 198.7 | 9.8 |
| 60°-70° | 97.9 | 4.8 |
| 70°-80° | 21.2 | 1.0 |
| 80°-90° | 2.6 | 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° | 993.7 | 48.9 |
| 0°-40° | 1404.3 | 69.1 |
| 0°-60° | 1909.4 | 94.0 |
| 0°-90° | 2031.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2031.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1615 | 1615 | 1615 | 1615 | 1615 | |
| 5° | 1584 | 1584 | 1584 | 1586 | 1586 | 149 |
| 15° | 1365 | 1365 | 1363 | 1365 | 1365 | 381 |
| 25° | 1021 | 1019 | 1010 | 1016 | 1021 | 467 |
| 35° | 659 | 654 | 650 | 654 | 657 | 414 |
| 45° | 397 | 397 | 390 | 394 | 399 | 307 |
| 55° | 210 | 217 | 236 | 219 | 212 | 191 |
| 65° | 89 | 100 | 104 | 98 | 89 | 90 |
| 75° | 11 | 13 | 17 | 13 | 11 | 18 |
| 85° | 2 | 2 | 2 | 2 | 2 | 3 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P241690

CATALOG NUMBER: PRS420D010-S4M12-44SNDMW-4000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1614.7 | 1614.7 | 1614.7 | 1614.7 | 1614.7 |
| 2.5° | 1606.0 | 1606.0 | 1608.2 | 1608.2 | 1608.2 |
| 5° | 1584.3 | 1584.3 | 1584.3 | 1586.5 | 1586.5 |
| 7.5° | 1549.6 | 1547.5 | 1547.5 | 1549.6 | 1549.6 |
| 10° | 1497.6 | 1497.6 | 1499.8 | 1495.5 | 1497.6 |
| 12.5° | 1436.9 | 1436.9 | 1434.8 | 1436.9 | 1436.9 |
| 15° | 1365.4 | 1365.4 | 1363.2 | 1365.4 | 1365.4 |
| 17.5° | 1283.1 | 1283.1 | 1280.9 | 1285.2 | 1287.4 |
| 20° | 1202.9 | 1200.7 | 1194.2 | 1198.5 | 1198.5 |
| 22.5° | 1111.8 | 1109.7 | 1101.0 | 1107.5 | 1109.7 |
| 25° | 1020.8 | 1018.6 | 1010.0 | 1016.5 | 1020.8 |
| 27.5° | 929.8 | 921.1 | 912.4 | 923.3 | 927.6 |
| 30° | 834.4 | 827.9 | 819.2 | 827.9 | 832.3 |
| 32.5° | 743.4 | 741.2 | 732.6 | 739.1 | 743.4 |
| 35° | 658.9 | 654.5 | 650.2 | 654.5 | 656.7 |
| 37.5° | 583.0 | 578.7 | 572.2 | 578.7 | 583.0 |
| 40° | 513.7 | 509.3 | 505.0 | 507.2 | 511.5 |
| 42.5° | 455.1 | 450.8 | 444.3 | 448.6 | 453.0 |
| 45° | 396.6 | 396.6 | 390.1 | 394.5 | 398.8 |
| 47.5° | 342.4 | 346.8 | 344.6 | 346.8 | 344.6 |
| 50° | 292.6 | 301.3 | 305.6 | 301.3 | 292.6 |
| 52.5° | 249.2 | 255.7 | 268.7 | 255.7 | 249.2 |
| 55° | 210.2 | 216.7 | 236.2 | 218.9 | 212.4 |
| 57.5° | 177.7 | 184.2 | 199.4 | 184.2 | 177.7 |
| 60° | 145.2 | 153.9 | 162.5 | 153.9 | 145.2 |
| 62.5° | 117.0 | 125.7 | 132.2 | 125.7 | 114.9 |
| 65° | 88.9 | 99.7 | 104.0 | 97.5 | 88.9 |
| 67.5° | 65.0 | 73.7 | 78.0 | 73.7 | 65.0 |
| 70° | 43.3 | 52.0 | 54.2 | 52.0 | 43.3 |
| 72.5° | 26.0 | 32.5 | 32.5 | 30.3 | 26.0 |
| 75° | 10.8 | 13.0 | 17.3 | 13.0 | 10.8 |
| 77.5° | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 |
| 80° | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| 82.5° | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| 85° | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| 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)