

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: P241738

Luminaire Tested: **PRS410D010-S4M12-44SMDH-3000K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P241738
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-44)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PRS410D010-S4M12-44SMDH-3000K
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" MEDIUM DISTRIBUTION, SHALLOW TRIM HAZE
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 972.2 lumens
Efficiency: N/A
Efficacy: 97.2 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

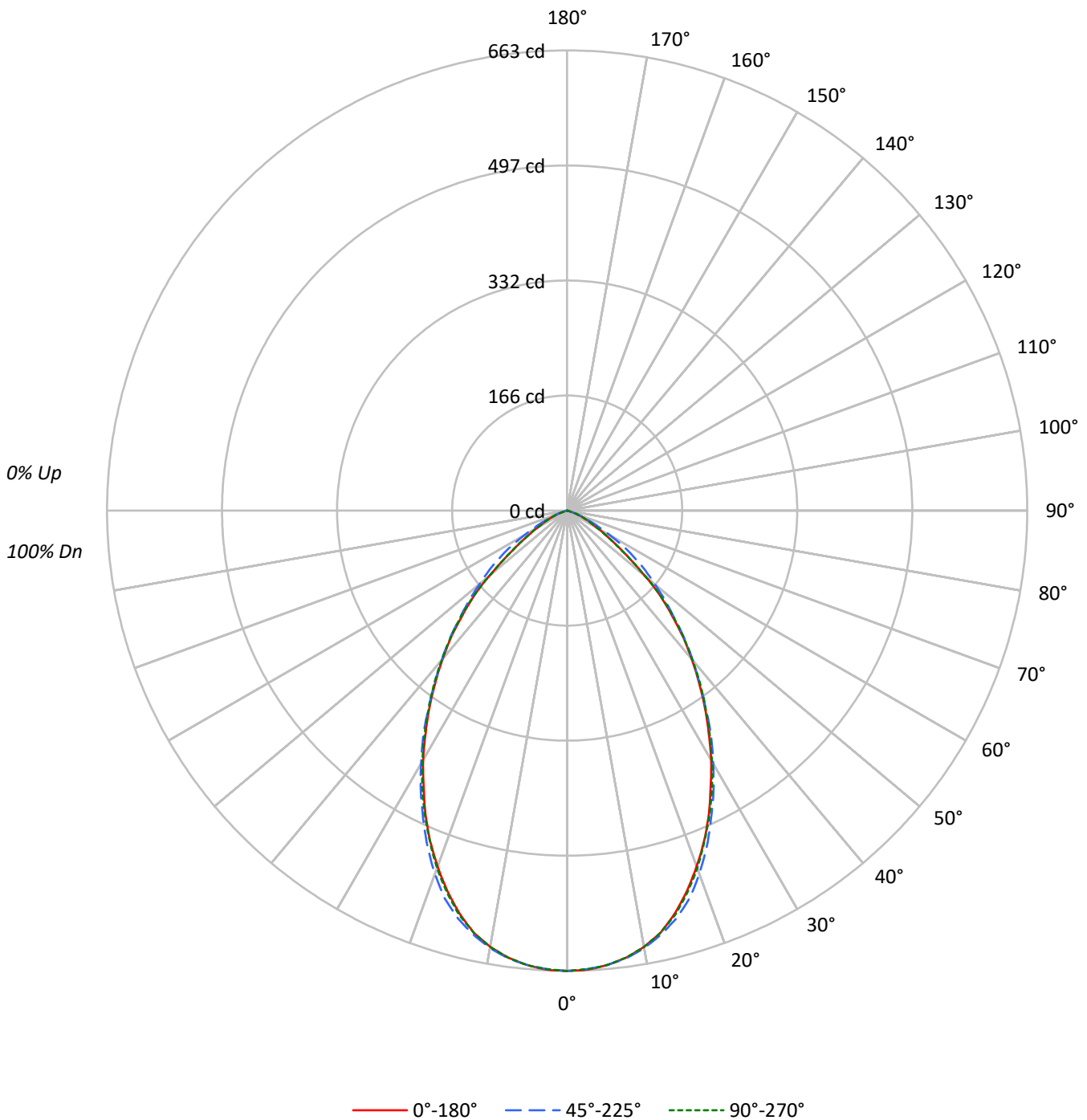
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 112 | 109 | 106 | 103 | 110 | 107 | 104 | 101 | 102 | 100 | 98 | 99 | 97 | 95 | 95 | 94 | 92 | 91 |
| 2 | 105 | 99 | 94 | 89 | 102 | 97 | 92 | 88 | 94 | 90 | 86 | 90 | 87 | 85 | 88 | 85 | 83 | 81 |
| 3 | 98 | 90 | 83 | 79 | 96 | 88 | 83 | 78 | 85 | 81 | 77 | 83 | 79 | 75 | 81 | 77 | 74 | 72 |
| 4 | 91 | 82 | 75 | 70 | 89 | 81 | 74 | 69 | 78 | 73 | 68 | 76 | 71 | 67 | 74 | 70 | 67 | 65 |
| 5 | 85 | 75 | 68 | 62 | 83 | 74 | 67 | 62 | 72 | 66 | 61 | 70 | 65 | 61 | 68 | 64 | 60 | 58 |
| 6 | 80 | 69 | 61 | 56 | 78 | 68 | 61 | 56 | 66 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 55 | 53 |
| 7 | 75 | 63 | 56 | 51 | 73 | 63 | 56 | 51 | 61 | 55 | 50 | 60 | 54 | 50 | 59 | 54 | 50 | 48 |
| 8 | 70 | 59 | 51 | 47 | 69 | 58 | 51 | 46 | 57 | 51 | 46 | 56 | 50 | 46 | 55 | 50 | 46 | 44 |
| 9 | 66 | 55 | 47 | 43 | 65 | 54 | 47 | 43 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 41 |
| 10 | 62 | 51 | 44 | 39 | 61 | 50 | 44 | 39 | 49 | 43 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 50771 | 50771 | 50771 |
| 5° | 50520 | 50520 | 50520 |
| 10° | 49604 | 49751 | 49604 |
| 15° | 47586 | 48196 | 47744 |
| 20° | 44434 | 45379 | 44670 |
| 25° | 40767 | 41426 | 40936 |
| 30° | 36697 | 37201 | 36865 |
| 35° | 32294 | 32565 | 32481 |
| 40° | 27878 | 28078 | 28078 |
| 45° | 23100 | 23620 | 23414 |
| 50° | 17481 | 19660 | 17481 |
| 55° | 11597 | 15854 | 11463 |
| 60° | 7685 | 11083 | 7685 |
| 65° | 5415 | 6647 | 5252 |
| 70° | 3021 | 3446 | 3021 |
| 75° | 296 | 1153 | 296 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 62.2 | 6.4 |
| 10°-20° | 169.2 | 17.4 |
| 20°-30° | 223.8 | 23.0 |
| 30°-40° | 218.1 | 22.4 |
| 40°-50° | 168.1 | 17.3 |
| 50°-60° | 91.9 | 9.4 |
| 60°-70° | 34.0 | 3.5 |
| 70°-80° | 5.0 | 0.5 |
| 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° | 455.2 | 46.8 |
| 0°-40° | 673.3 | 69.3 |
| 0°-60° | 933.2 | 96.0 |
| 0°-90° | 972.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 972.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 663 | 663 | 663 | 663 | 663 | |
| 5° | 658 | 658 | 658 | 658 | 658 | 62 |
| 15° | 600 | 604 | 608 | 605 | 602 | 168 |
| 25° | 483 | 488 | 490 | 490 | 485 | 221 |
| 35° | 346 | 350 | 348 | 352 | 348 | 216 |
| 45° | 213 | 219 | 218 | 220 | 216 | 164 |
| 55° | 87 | 98 | 119 | 98 | 86 | 81 |
| 65° | 30 | 33 | 37 | 33 | 29 | 30 |
| 75° | 1 | 2 | 4 | 2 | 1 | 4 |
| 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° | 663.3 | 663.3 | 663.3 | 663.3 | 663.3 |
| 2.5° | 662.3 | 661.3 | 661.3 | 661.3 | 661.3 |
| 5° | 657.5 | 657.5 | 657.5 | 657.5 | 657.5 |
| 7.5° | 649.8 | 649.8 | 650.7 | 649.8 | 649.8 |
| 10° | 638.2 | 639.1 | 640.1 | 640.1 | 638.2 |
| 12.5° | 622.7 | 624.7 | 625.6 | 624.7 | 622.7 |
| 15° | 600.5 | 604.4 | 608.2 | 605.3 | 602.5 |
| 17.5° | 574.5 | 579.3 | 586.0 | 580.2 | 576.4 |
| 20° | 545.5 | 551.3 | 557.1 | 553.2 | 548.4 |
| 22.5° | 515.6 | 520.4 | 525.2 | 523.3 | 516.5 |
| 25° | 482.7 | 488.5 | 490.5 | 490.5 | 484.7 |
| 27.5° | 448.0 | 454.7 | 456.7 | 455.7 | 451.8 |
| 30° | 415.2 | 420.0 | 420.9 | 421.9 | 417.1 |
| 32.5° | 379.4 | 384.3 | 386.2 | 387.2 | 382.3 |
| 35° | 345.6 | 349.5 | 348.5 | 352.4 | 347.6 |
| 37.5° | 311.8 | 315.7 | 313.8 | 317.6 | 314.7 |
| 40° | 279.0 | 281.0 | 281.0 | 283.8 | 281.0 |
| 42.5° | 247.2 | 249.1 | 250.1 | 251.0 | 249.1 |
| 45° | 213.4 | 219.2 | 218.2 | 220.1 | 216.3 |
| 47.5° | 182.5 | 187.3 | 191.2 | 189.2 | 183.4 |
| 50° | 146.8 | 158.3 | 165.1 | 160.3 | 146.8 |
| 52.5° | 113.0 | 126.5 | 141.9 | 127.4 | 113.0 |
| 55° | 86.9 | 97.5 | 118.8 | 98.5 | 85.9 |
| 57.5° | 65.7 | 74.3 | 95.6 | 74.3 | 65.7 |
| 60° | 50.2 | 57.0 | 72.4 | 57.0 | 50.2 |
| 62.5° | 38.6 | 43.4 | 52.1 | 43.4 | 38.6 |
| 65° | 29.9 | 32.8 | 36.7 | 32.8 | 29.0 |
| 67.5° | 21.2 | 24.1 | 24.1 | 24.1 | 21.2 |
| 70° | 13.5 | 16.4 | 15.4 | 16.4 | 13.5 |
| 72.5° | 5.8 | 8.7 | 9.7 | 8.7 | 5.8 |
| 75° | 1.0 | 1.9 | 3.9 | 1.9 | 1.0 |
| 77.5° | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 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)