

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: P241769

Luminaire Tested: **PRS415D010-S4M12-44SNDC-3000K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P241769
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1802-584-46)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PRS415D010-S4M12-44SNDC-3000K
Description: HALO COMMERCIAL 4" SQUARE, NEW CONSTRUCTION FRAME, WITH 4" NARROW DISTRIBUTION, SHALLOW TRIM SPECULAR
Light Source: ARRAYS OF HIGH LUMEN LEDS 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1155.1 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 0.9 / 0.95
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

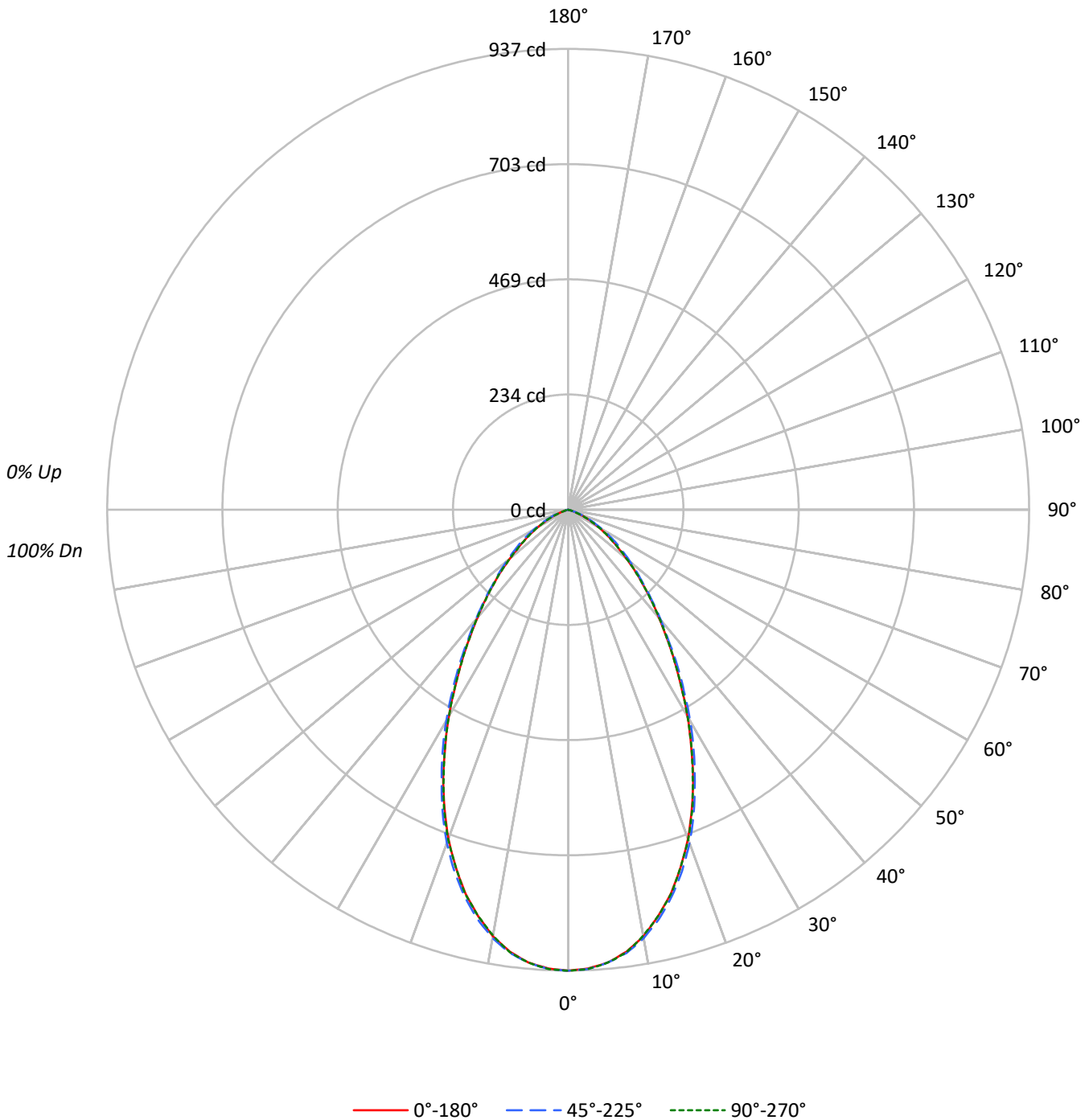
Input Watts (W): 12
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 102 | 103 | 100 | 98 | 99 | 97 | 96 | 95 | 94 | 93 | 91 | | | | | 91 | | | |
| 2 | 105 | 99 | 94 | 90 | 103 | 97 | 93 | 89 | 94 | 90 | 87 | 91 | 88 | 85 | 88 | 86 | 83 | 82 | | | | | 82 | | | |
| 3 | 98 | 90 | 84 | 80 | 96 | 89 | 83 | 79 | 86 | 81 | 78 | 84 | 80 | 76 | 81 | 78 | 75 | 73 | | | | | 73 | | | |
| 4 | 92 | 83 | 76 | 71 | 90 | 82 | 75 | 70 | 79 | 74 | 70 | 77 | 72 | 69 | 75 | 71 | 68 | 66 | | | | | 66 | | | |
| 5 | 86 | 76 | 69 | 64 | 84 | 75 | 68 | 63 | 73 | 67 | 63 | 71 | 66 | 62 | 70 | 65 | 62 | 60 | | | | | 60 | | | |
| 6 | 81 | 70 | 63 | 58 | 79 | 69 | 63 | 58 | 68 | 62 | 57 | 66 | 61 | 57 | 65 | 60 | 56 | 55 | | | | | 55 | | | |
| 7 | 76 | 65 | 58 | 53 | 74 | 64 | 57 | 53 | 63 | 57 | 52 | 62 | 56 | 52 | 60 | 55 | 52 | 50 | | | | | 50 | | | |
| 8 | 72 | 60 | 53 | 49 | 70 | 60 | 53 | 48 | 59 | 53 | 48 | 57 | 52 | 48 | 56 | 51 | 48 | 46 | | | | | 46 | | | |
| 9 | 68 | 56 | 49 | 45 | 66 | 56 | 49 | 45 | 55 | 49 | 45 | 54 | 48 | 44 | 53 | 48 | 44 | 43 | | | | | 43 | | | |
| 10 | 64 | 53 | 46 | 42 | 63 | 52 | 46 | 42 | 51 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 40 | | | | | 40 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 71744 | 71744 | 71744 |
| 5° | 71035 | 71035 | 71035 |
| 10° | 68452 | 68747 | 68351 |
| 15° | 63973 | 64480 | 64076 |
| 20° | 57997 | 58730 | 58102 |
| 25° | 50784 | 51434 | 50564 |
| 30° | 42902 | 43812 | 42902 |
| 35° | 35256 | 36097 | 35256 |
| 40° | 28687 | 29207 | 28817 |
| 45° | 23273 | 23696 | 23273 |
| 50° | 18398 | 19470 | 18398 |
| 55° | 14439 | 15974 | 14439 |
| 60° | 11038 | 12216 | 11038 |
| 65° | 7462 | 8621 | 7462 |
| 70° | 3737 | 4901 | 3737 |
| 75° | 0 | 1153 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 86.9 | 7.5 |
| 10°-20° | 226.3 | 19.6 |
| 20°-30° | 277.1 | 24.0 |
| 30°-40° | 240.0 | 20.8 |
| 40°-50° | 170.3 | 14.7 |
| 50°-60° | 102.9 | 8.9 |
| 60°-70° | 45.9 | 4.0 |
| 70°-80° | 5.6 | 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° | 590.3 | 51.1 |
| 0°-40° | 830.4 | 71.9 |
| 0°-60° | 1103.6 | 95.5 |
| 0°-90° | 1155.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1155.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 937 | 937 | 937 | 937 | 937 | |
| 5° | 924 | 924 | 924 | 924 | 924 | 87 |
| 15° | 807 | 811 | 814 | 812 | 809 | 225 |
| 25° | 601 | 609 | 609 | 608 | 599 | 274 |
| 35° | 377 | 385 | 386 | 384 | 377 | 236 |
| 45° | 215 | 220 | 219 | 222 | 215 | 167 |
| 55° | 108 | 113 | 120 | 115 | 108 | 98 |
| 65° | 41 | 46 | 48 | 46 | 41 | 42 |
| 75° | 0 | 1 | 4 | 1 | 0 | 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° | 937.3 | 937.3 | 937.3 | 937.3 | 937.3 |
| 2.5° | 933.5 | 933.5 | 934.8 | 934.8 | 934.8 |
| 5° | 924.5 | 924.5 | 924.5 | 924.5 | 924.5 |
| 7.5° | 906.4 | 906.4 | 909.0 | 907.7 | 907.7 |
| 10° | 880.7 | 880.7 | 884.5 | 882.0 | 879.4 |
| 12.5° | 845.9 | 849.8 | 852.4 | 849.8 | 845.9 |
| 15° | 807.3 | 811.2 | 813.7 | 812.4 | 808.6 |
| 17.5° | 760.9 | 767.4 | 770.0 | 767.4 | 760.9 |
| 20° | 712.0 | 717.2 | 721.0 | 717.2 | 713.3 |
| 22.5° | 656.6 | 663.1 | 666.9 | 663.1 | 659.2 |
| 25° | 601.3 | 609.0 | 609.0 | 607.7 | 598.7 |
| 27.5° | 540.8 | 549.8 | 552.4 | 549.8 | 542.1 |
| 30° | 485.4 | 491.8 | 495.7 | 491.8 | 485.4 |
| 32.5° | 427.5 | 436.5 | 437.8 | 436.5 | 428.8 |
| 35° | 377.3 | 385.0 | 386.3 | 383.7 | 377.3 |
| 37.5° | 329.6 | 337.3 | 334.8 | 337.3 | 329.6 |
| 40° | 287.1 | 293.6 | 292.3 | 293.6 | 288.4 |
| 42.5° | 249.8 | 254.9 | 253.6 | 254.9 | 248.5 |
| 45° | 215.0 | 220.2 | 218.9 | 221.5 | 215.0 |
| 47.5° | 184.1 | 189.3 | 190.6 | 189.3 | 184.1 |
| 50° | 154.5 | 162.2 | 163.5 | 162.2 | 154.5 |
| 52.5° | 128.8 | 135.2 | 140.3 | 136.5 | 128.8 |
| 55° | 108.2 | 113.3 | 119.7 | 114.6 | 108.2 |
| 57.5° | 88.8 | 94.0 | 99.1 | 95.3 | 88.8 |
| 60° | 72.1 | 77.3 | 79.8 | 77.3 | 72.1 |
| 62.5° | 55.4 | 61.8 | 63.1 | 61.8 | 55.4 |
| 65° | 41.2 | 46.4 | 47.6 | 46.4 | 41.2 |
| 67.5° | 28.3 | 33.5 | 33.5 | 33.5 | 28.3 |
| 70° | 16.7 | 20.6 | 21.9 | 21.9 | 16.7 |
| 72.5° | 6.4 | 10.3 | 11.6 | 10.3 | 7.7 |
| 75° | 0.0 | 1.3 | 3.9 | 1.3 | 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)