

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

Report Number: P406199

Luminaire Tested: **SMD14S09SWHE 2700K**

Test Date: 2020-03-28

Test Information

Test Method: LM-79-08
Report Number: P406199
Test Lab: EVERFINE
Test Date: 2020-03-28
Issue Date: 2020-03-28 16:59:20
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: SMD14S09SWHE 2700K
Description: DL-NA1UaA26OR1-2590
Light Source: -
Ballast/Driver: -

Summary

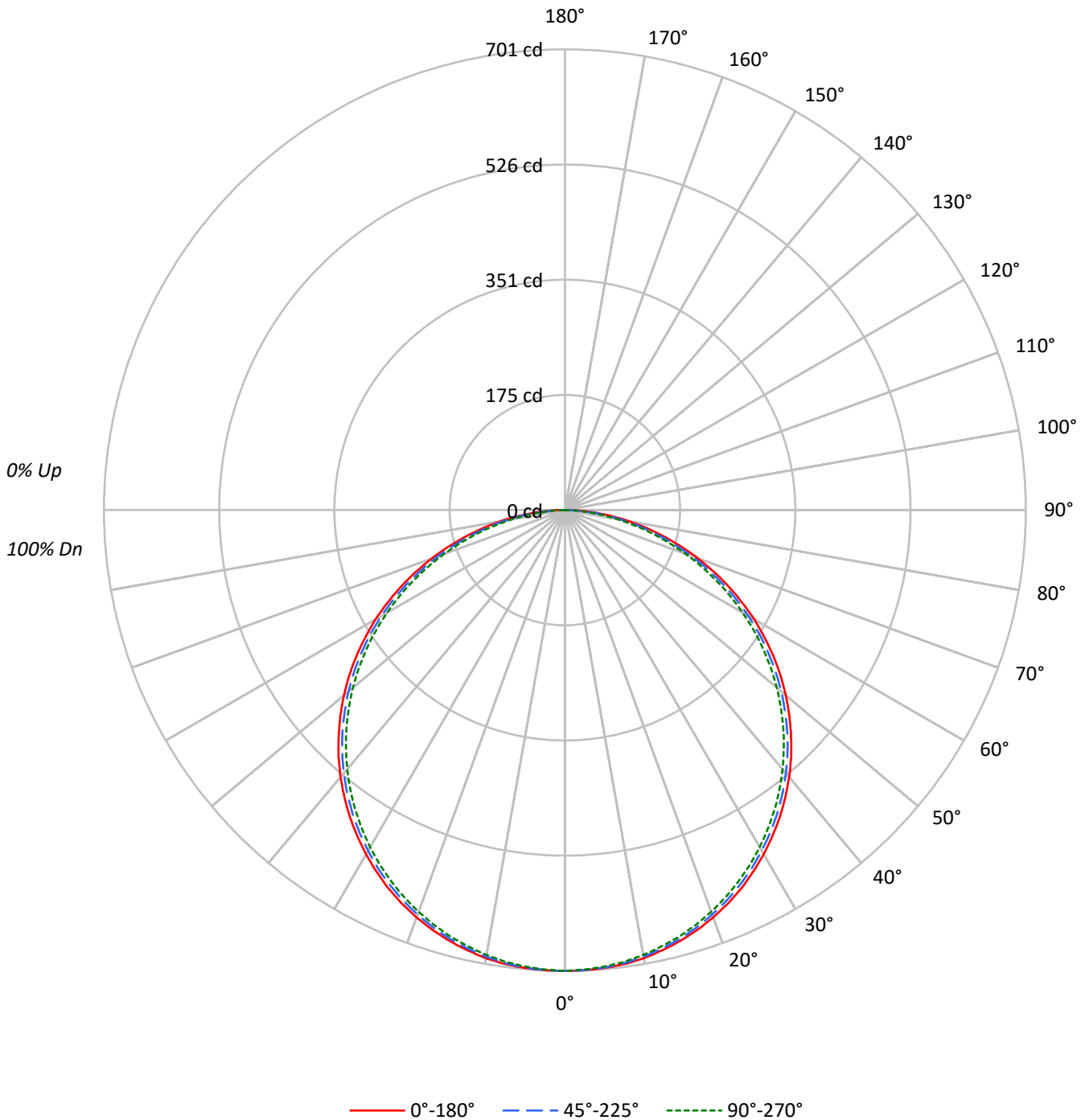
Lumens per Lamp: N/A
Luminaire Lumens: 2067.5 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.26 / 1.39
Luminous Opening: Rectangular (W 0.18m x L: 0.18m x H: 0m)
CIE Type: Direct

Input Watts (W): 26.1
Input Voltage (V): NR
Input Current (A_{in}): 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 | 108 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 84 | 79 | 74 | 81 | 77 | 73 | 78 | 74 | 71 | 69 |
| 3 | 90 | 79 | 70 | 64 | 87 | 77 | 69 | 63 | 74 | 68 | 62 | 71 | 66 | 61 | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 53 | 66 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 45 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 31 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 35 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 41 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 38 | 31 | 26 | 37 | 30 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 22178 | 22178 | 22178 |
| 5° | 22208 | 22183 | 22135 |
| 10° | 22234 | 22154 | 22077 |
| 15° | 22223 | 22115 | 21994 |
| 20° | 22201 | 22046 | 21898 |
| 25° | 22163 | 21968 | 21776 |
| 30° | 22080 | 21861 | 21635 |
| 35° | 22011 | 21745 | 21475 |
| 40° | 21910 | 21592 | 21266 |
| 45° | 21768 | 21401 | 21021 |
| 50° | 21584 | 21141 | 20708 |
| 55° | 21349 | 20808 | 20301 |
| 60° | 21023 | 20371 | 19758 |
| 65° | 20546 | 19790 | 19042 |
| 70° | 19950 | 19006 | 18081 |
| 75° | 19140 | 17954 | 16805 |
| 80° | 18253 | 16595 | 15010 |
| 85° | 17458 | 14518 | 11759 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 66.4 | 3.2 |
| 10°-20° | 190.6 | 9.2 |
| 20°-30° | 290.1 | 14.0 |
| 30°-40° | 352.2 | 17.0 |
| 40°-50° | 368.8 | 17.8 |
| 50°-60° | 337.1 | 16.3 |
| 60°-70° | 261.3 | 12.6 |
| 70°-80° | 155.4 | 7.5 |
| 80°-90° | 45.5 | 2.2 |
| 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° | 547.1 | 26.5 |
| 0°-40° | 899.4 | 43.5 |
| 0°-60° | 1605.3 | 77.6 |
| 0°-90° | 2067.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2067.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 701 | 701 | 701 | 701 | 701 | |
| 5° | 699 | 699 | 699 | 698 | 697 | 67 |
| 15° | 679 | 677 | 675 | 674 | 672 | 192 |
| 25° | 635 | 632 | 629 | 626 | 624 | 293 |
| 35° | 570 | 567 | 563 | 559 | 556 | 357 |
| 45° | 487 | 483 | 478 | 473 | 470 | 375 |
| 55° | 387 | 383 | 377 | 372 | 368 | 346 |
| 65° | 274 | 270 | 264 | 258 | 254 | 272 |
| 75° | 157 | 153 | 147 | 140 | 138 | 166 |
| 85° | 48 | 45 | 40 | 35 | 32 | 53 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 701.1 | 701.1 | 701.1 | 701.1 | 701.1 |
| 2.5° | 700.8 | 700.7 | 700.5 | 700.1 | 699.5 |
| 5° | 699.4 | 699.2 | 698.6 | 697.8 | 697.1 |
| 7.5° | 696.7 | 695.6 | 695.2 | 693.9 | 693.0 |
| 10° | 692.2 | 691.0 | 689.7 | 688.5 | 687.3 |
| 12.5° | 685.9 | 684.6 | 683.4 | 681.7 | 680.0 |
| 15° | 678.6 | 677.4 | 675.3 | 673.5 | 671.6 |
| 17.5° | 669.7 | 667.9 | 666.0 | 663.6 | 661.7 |
| 20° | 659.5 | 657.7 | 654.9 | 652.5 | 650.5 |
| 22.5° | 647.9 | 645.5 | 643.0 | 640.2 | 637.9 |
| 25° | 635.0 | 632.4 | 629.4 | 626.5 | 623.9 |
| 27.5° | 620.4 | 617.8 | 615.1 | 611.4 | 608.8 |
| 30° | 604.5 | 602.4 | 598.5 | 595.0 | 592.3 |
| 32.5° | 587.9 | 585.3 | 581.6 | 577.7 | 574.7 |
| 35° | 570.0 | 567.0 | 563.1 | 558.9 | 556.1 |
| 37.5° | 550.8 | 547.8 | 543.7 | 539.3 | 536.2 |
| 40° | 530.6 | 527.5 | 522.9 | 518.2 | 515.0 |
| 42.5° | 509.4 | 505.7 | 501.2 | 496.4 | 492.8 |
| 45° | 486.6 | 483.0 | 478.4 | 473.0 | 469.9 |
| 47.5° | 463.1 | 459.4 | 454.2 | 449.1 | 445.8 |
| 50° | 438.6 | 434.7 | 429.6 | 424.1 | 420.8 |
| 52.5° | 413.3 | 409.3 | 403.9 | 398.4 | 394.9 |
| 55° | 387.1 | 383.0 | 377.3 | 371.6 | 368.1 |
| 57.5° | 359.7 | 356.0 | 350.4 | 344.1 | 340.7 |
| 60° | 332.3 | 327.7 | 322.0 | 316.0 | 312.3 |
| 62.5° | 303.6 | 299.4 | 293.5 | 287.0 | 283.7 |
| 65° | 274.5 | 270.3 | 264.4 | 257.7 | 254.4 |
| 67.5° | 245.3 | 241.0 | 234.7 | 228.4 | 225.2 |
| 70° | 215.7 | 211.3 | 205.5 | 199.0 | 195.5 |
| 72.5° | 186.0 | 182.0 | 175.9 | 169.4 | 166.1 |
| 75° | 156.6 | 152.6 | 146.9 | 140.5 | 137.5 |
| 77.5° | 128.0 | 124.2 | 118.5 | 112.3 | 109.2 |
| 80° | 100.2 | 96.4 | 91.1 | 85.1 | 82.4 |
| 82.5° | 73.9 | 70.1 | 65.0 | 59.2 | 56.4 |
| 85° | 48.1 | 44.6 | 40.0 | 34.6 | 32.4 |
| 87.5° | 24.3 | 21.3 | 17.1 | 12.4 | 10.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)