

Classified  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P579698

Luminaire Tested: **HCC4S10D010SL-HM40525827-41RWWH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P579698  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S10D010SL-HM40525827-41RWWH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

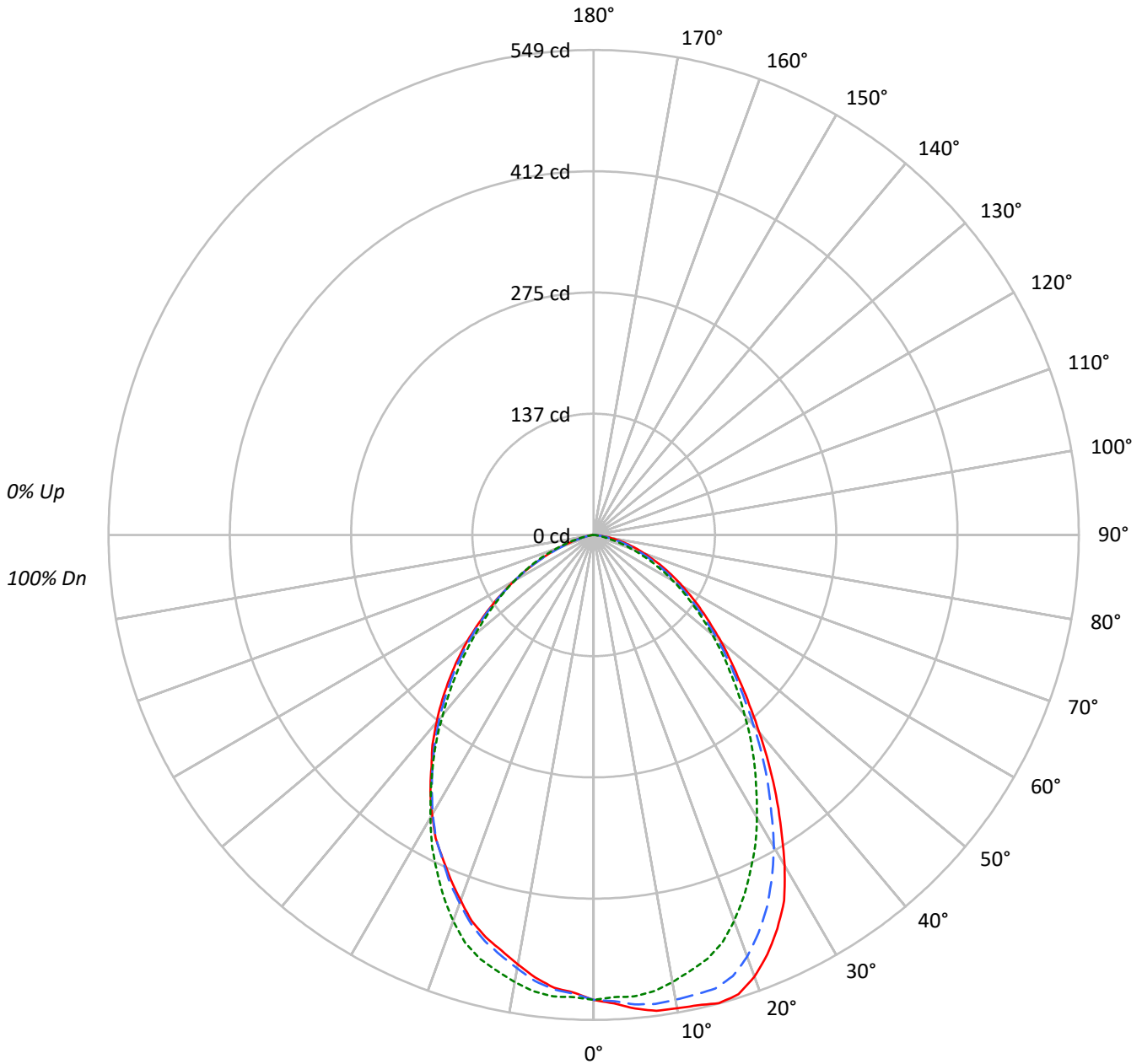
Lumens per Lamp: N/A  
Luminaire Lumens: 1003.3 lumens  
Efficiency: N/A  
Efficacy: 101.3 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 9.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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 | 0  |  |  |  |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |  |  |  |  |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |  |  |  |  |   |
| 1   | 111 | 107 | 104 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 88  |    |    |    |  |  |  |  |   |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 84  | 90  | 86  | 82  | 87  | 84  | 80  | 84  | 81  | 79  | 77  |    |    |    |  |  |  |  |   |
| 3   | 95  | 86  | 79  | 73  | 92  | 84  | 78  | 73  | 81  | 76  | 71  | 79  | 74  | 70  | 76  | 72  | 69  | 67  |    |    |    |  |  |  |  |   |
| 4   | 88  | 77  | 70  | 64  | 86  | 76  | 69  | 63  | 74  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |    |    |    |  |  |  |  |   |
| 5   | 81  | 70  | 62  | 56  | 79  | 69  | 61  | 56  | 67  | 60  | 55  | 65  | 59  | 55  | 63  | 58  | 54  | 52  |    |    |    |  |  |  |  |   |
| 6   | 76  | 64  | 56  | 50  | 74  | 63  | 55  | 50  | 61  | 54  | 49  | 60  | 54  | 49  | 58  | 53  | 49  | 47  |    |    |    |  |  |  |  |   |
| 7   | 71  | 58  | 51  | 45  | 69  | 58  | 50  | 45  | 56  | 49  | 45  | 55  | 49  | 44  | 54  | 48  | 44  | 42  |    |    |    |  |  |  |  |   |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |    |    |    |  |  |  |  |   |
| 9   | 62  | 50  | 42  | 37  | 61  | 49  | 42  | 37  | 48  | 41  | 37  | 47  | 41  | 37  | 46  | 41  | 37  | 35  |    |    |    |  |  |  |  |   |
| 10  | 58  | 46  | 39  | 34  | 57  | 46  | 39  | 34  | 45  | 38  | 34  | 44  | 38  | 34  | 43  | 38  | 34  | 32  |    |    |    |  |  |  |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 64917 | 64917 | 64917 |
| 5°  | 66638 | 64930 | 63716 |
| 10° | 68135 | 64365 | 61835 |
| 15° | 70054 | 63465 | 60209 |
| 20° | 69857 | 61024 | 57768 |
| 25° | 66919 | 57133 | 54997 |
| 30° | 61557 | 52613 | 52057 |
| 35° | 54148 | 47763 | 48155 |
| 40° | 46856 | 42750 | 44521 |
| 45° | 40714 | 37975 | 40260 |
| 50° | 36133 | 33504 | 35769 |
| 55° | 32063 | 29397 | 30666 |
| 60° | 28542 | 25483 | 25483 |
| 65° | 25363 | 21189 | 19876 |
| 70° | 21927 | 16048 | 14173 |
| 75° | 18396 | 10580 | 8721  |
| 80° | 13922 | 5114  | 4617  |
| 85° | 7359  | 1840  | 1840  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 49.8   | 5.0       |
| 10°-20°   | 141.3  | 14.1      |
| 20°-30°   | 199.3  | 19.9      |
| 30°-40°   | 205.9  | 20.5      |
| 40°-50°   | 174.5  | 17.4      |
| 50°-60°   | 127.0  | 12.7      |
| 60°-70°   | 74.2   | 7.4       |
| 70°-80°   | 27.6   | 2.7       |
| 80°-90°   | 3.6    | 0.4       |
| 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°    | 390.5  | 38.9      |
| 0°-40°    | 596.3  | 59.4      |
| 0°-60°    | 897.9  | 89.5      |
| 0°-90°    | 1003.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1003.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 526 | 526 | 526 | 526  | 526  |      |
| 5°  | 538 | 534 | 524 | 516  | 515  | 52   |
| 15° | 549 | 532 | 497 | 476  | 472  | 154  |
| 25° | 492 | 464 | 420 | 405  | 404  | 225  |
| 35° | 360 | 344 | 317 | 318  | 320  | 225  |
| 45° | 233 | 227 | 218 | 226  | 231  | 182  |
| 55° | 149 | 142 | 137 | 141  | 143  | 134  |
| 65° | 87  | 80  | 73  | 68   | 68   | 86   |
| 75° | 39  | 32  | 22  | 18   | 18   | 41   |
| 85° | 5   | 3   | 1   | 1    | 1    | 7    |
| 90° | 0   | 0   | 0   | 0    | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180°  |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0°    | 526.3 | 526.3 | 526.3 | 526.3 | 526.3 | 526.3  | 526.3 | 526.3  | 526.3 |
| 2.5°  | 530.9 | 529.6 | 528.3 | 526.3 | 523.7 | 521.8  | 519.8 | 518.5  | 518.5 |
| 5°    | 538.2 | 536.1 | 533.5 | 528.9 | 524.4 | 520.5  | 516.5 | 514.6  | 514.6 |
| 7.5°  | 543.4 | 540.8 | 535.5 | 528.9 | 521.1 | 515.3  | 509.4 | 506.8  | 505.4 |
| 10°   | 544.0 | 541.3 | 534.2 | 524.4 | 513.9 | 504.8  | 498.2 | 494.3  | 493.7 |
| 12.5° | 545.3 | 542.0 | 532.9 | 519.2 | 505.4 | 494.3  | 487.1 | 483.2  | 481.9 |
| 15°   | 548.6 | 544.0 | 531.6 | 513.9 | 497.0 | 483.9  | 476.0 | 472.7  | 471.5 |
| 17.5° | 545.3 | 538.7 | 523.7 | 502.8 | 483.9 | 469.4  | 461.6 | 458.4  | 458.4 |
| 20°   | 532.2 | 525.6 | 508.0 | 485.1 | 464.9 | 451.1  | 443.4 | 441.3  | 440.1 |
| 22.5° | 513.9 | 506.8 | 487.7 | 463.6 | 443.4 | 430.8  | 425.6 | 423.0  | 422.4 |
| 25°   | 491.7 | 484.6 | 464.2 | 439.4 | 419.8 | 409.3  | 404.8 | 404.8  | 404.1 |
| 27.5° | 466.8 | 457.7 | 436.8 | 415.1 | 396.3 | 388.4  | 386.5 | 386.5  | 387.0 |
| 30°   | 432.2 | 425.6 | 408.0 | 387.0 | 369.4 | 364.2  | 364.2 | 365.5  | 365.5 |
| 32.5° | 394.9 | 390.3 | 374.6 | 356.3 | 342.7 | 339.4  | 340.6 | 343.2  | 343.9 |
| 35°   | 359.6 | 354.4 | 343.9 | 327.6 | 317.2 | 315.8  | 317.7 | 319.8  | 319.8 |
| 37.5° | 325.0 | 319.8 | 312.5 | 299.5 | 291.7 | 292.2  | 294.9 | 297.5  | 299.5 |
| 40°   | 291.0 | 287.0 | 281.8 | 271.3 | 265.5 | 268.1  | 271.3 | 273.9  | 276.5 |
| 42.5° | 260.9 | 257.0 | 253.1 | 245.2 | 241.3 | 244.6  | 248.4 | 251.0  | 253.7 |
| 45°   | 233.4 | 230.8 | 226.9 | 220.3 | 217.7 | 221.0  | 225.6 | 228.2  | 230.8 |
| 47.5° | 209.8 | 208.6 | 203.4 | 197.4 | 196.2 | 199.4  | 203.4 | 206.7  | 208.6 |
| 50°   | 188.3 | 186.4 | 181.7 | 175.9 | 174.6 | 179.8  | 182.4 | 184.4  | 186.4 |
| 52.5° | 167.4 | 165.5 | 160.2 | 155.0 | 155.0 | 158.9  | 160.8 | 161.5  | 163.4 |
| 55°   | 149.1 | 147.1 | 141.9 | 137.9 | 136.7 | 140.0  | 141.2 | 141.2  | 142.6 |
| 57.5° | 132.1 | 130.1 | 124.8 | 120.3 | 119.6 | 121.7  | 121.7 | 121.7  | 122.2 |
| 60°   | 115.7 | 113.8 | 108.6 | 104.6 | 103.3 | 104.0  | 103.3 | 102.6  | 103.3 |
| 62.5° | 100.7 | 98.8  | 93.5  | 88.9  | 87.6  | 87.6   | 85.7  | 85.0   | 85.7  |
| 65°   | 86.9  | 83.6  | 79.8  | 75.2  | 72.6  | 70.7   | 68.1  | 68.1   | 68.1  |
| 67.5° | 73.3  | 70.7  | 66.0  | 61.5  | 58.2  | 55.0   | 51.0  | 52.3   | 52.9  |
| 70°   | 60.8  | 58.8  | 53.6  | 49.0  | 44.5  | 40.5   | 37.3  | 38.6   | 39.3  |
| 72.5° | 49.7  | 47.1  | 42.4  | 37.3  | 33.3  | 28.1   | 26.2  | 27.4   | 27.4  |
| 75°   | 38.6  | 36.0  | 32.1  | 26.9  | 22.2  | 17.6   | 17.6  | 18.3   | 18.3  |
| 77.5° | 28.8  | 26.2  | 22.2  | 17.6  | 13.8  | 10.5   | 11.2  | 11.2   | 11.2  |
| 80°   | 19.6  | 17.6  | 14.3  | 10.5  | 7.2   | 5.9    | 5.9   | 5.9    | 6.5   |
| 82.5° | 11.2  | 9.8   | 7.9   | 5.2   | 3.3   | 3.3    | 3.3   | 3.3    | 3.3   |
| 85°   | 5.2   | 3.9   | 3.3   | 1.9   | 1.3   | 1.3    | 1.3   | 1.3    | 1.3   |
| 87.5° | 0.7   | 0.7   | 0.7   | 0.7   | 0.7   | 0.7    | 0.7   | 0.7    | 0.7   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   |

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Scaled Data Report



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Scaled Data Report



— 0°-180°    - - 45°-225°    - - - - 90°-270°

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