

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: P579787

Luminaire Tested: **HCC4S10D010SL-HM40525930-41RWWC**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P579787  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S10D010SL-HM40525930-41RWWC  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

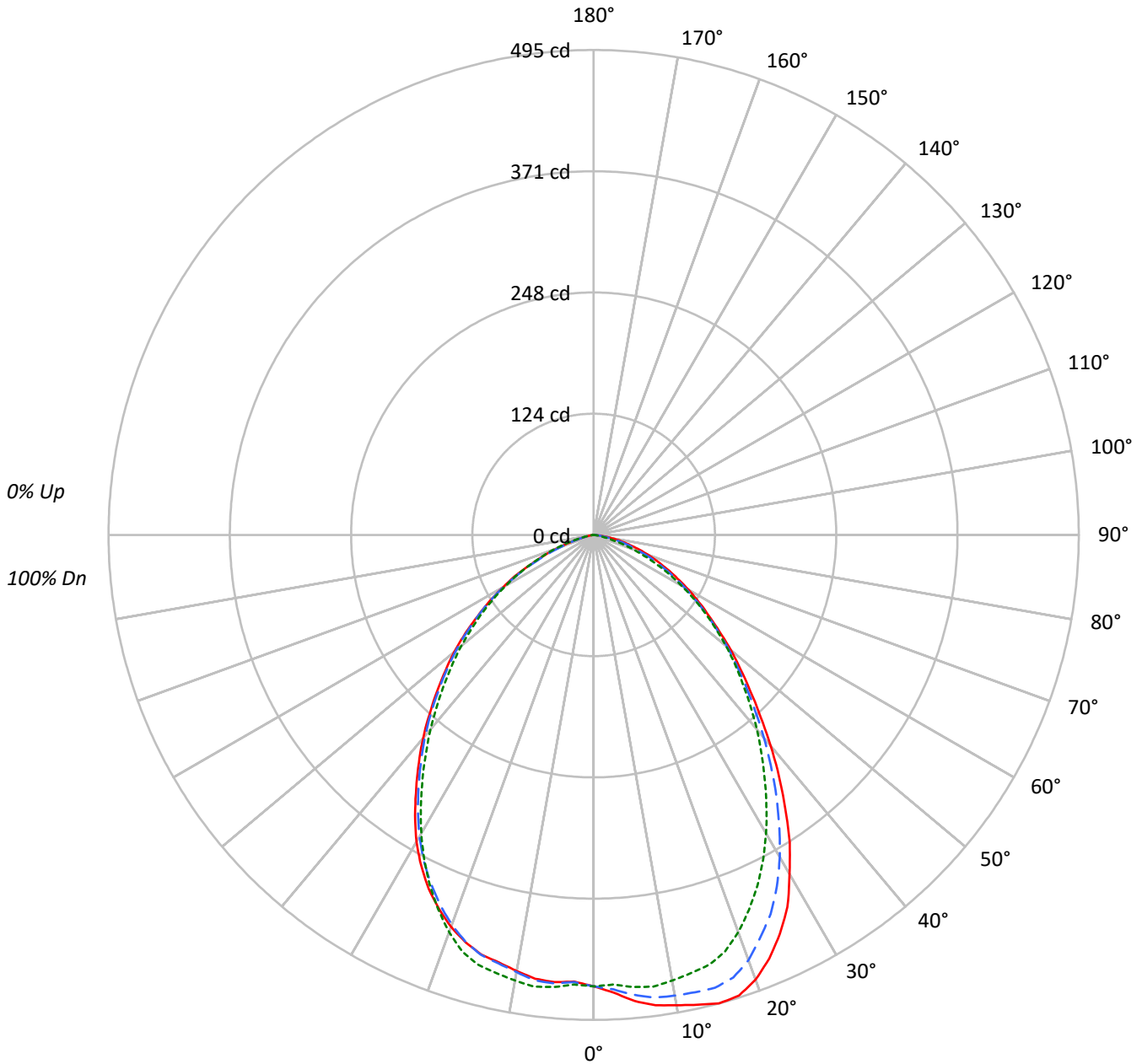
Lumens per Lamp: N/A  
Luminaire Lumens: 959.9 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.15 / 1.21  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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 | 103 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 88  |    |    |    |  |  |  |  |   |
| 2   | 102 | 95  | 90  | 85  | 100 | 94  | 88  | 84  | 90  | 86  | 82  | 87  | 83  | 80  | 84  | 81  | 78  | 76  |    |    |    |  |  |  |  |   |
| 3   | 95  | 85  | 78  | 73  | 92  | 84  | 77  | 72  | 81  | 75  | 71  | 78  | 74  | 70  | 76  | 72  | 69  | 67  |    |    |    |  |  |  |  |   |
| 4   | 87  | 77  | 69  | 63  | 85  | 76  | 68  | 63  | 73  | 67  | 62  | 71  | 66  | 61  | 69  | 64  | 60  | 58  |    |    |    |  |  |  |  |   |
| 5   | 81  | 70  | 61  | 56  | 79  | 68  | 61  | 55  | 66  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 54  | 52  |    |    |    |  |  |  |  |   |
| 6   | 75  | 63  | 55  | 49  | 74  | 62  | 55  | 49  | 61  | 54  | 49  | 59  | 53  | 48  | 58  | 52  | 48  | 46  |    |    |    |  |  |  |  |   |
| 7   | 70  | 58  | 50  | 44  | 69  | 57  | 49  | 44  | 56  | 49  | 44  | 54  | 48  | 44  | 53  | 47  | 43  | 41  |    |    |    |  |  |  |  |   |
| 8   | 66  | 53  | 45  | 40  | 64  | 53  | 45  | 40  | 51  | 44  | 40  | 50  | 44  | 39  | 49  | 43  | 39  | 37  |    |    |    |  |  |  |  |   |
| 9   | 62  | 49  | 42  | 36  | 60  | 49  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 36  | 45  | 40  | 36  | 34  |    |    |    |  |  |  |  |   |
| 10  | 58  | 46  | 38  | 33  | 57  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 42  | 37  | 33  | 31  |    |    |    |  |  |  |  |   |

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

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 56825 | 56825 | 56825 |
| 5°  | 59123 | 57352 | 56733 |
| 10° | 61046 | 57852 | 56600 |
| 15° | 63197 | 58025 | 56608 |
| 20° | 63413 | 56626 | 55878 |
| 25° | 61162 | 53785 | 54221 |
| 30° | 56928 | 50106 | 51516 |
| 35° | 51272 | 45836 | 47522 |
| 40° | 45197 | 41703 | 43587 |
| 45° | 39527 | 37574 | 39423 |
| 50° | 35001 | 33811 | 35596 |
| 55° | 30795 | 29848 | 31053 |
| 60° | 27481 | 25483 | 26248 |
| 65° | 24166 | 20722 | 20372 |
| 70° | 21097 | 15255 | 13921 |
| 75° | 17538 | 9198  | 7435  |
| 80° | 13283 | 3552  | 2202  |
| 85° | 6085  | 849   | 849   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 44.4   | 4.6       |
| 10°-20°   | 129.7  | 13.5      |
| 20°-30°   | 187.8  | 19.6      |
| 30°-40°   | 198.1  | 20.6      |
| 40°-50°   | 171.5  | 17.9      |
| 50°-60°   | 127.0  | 13.2      |
| 60°-70°   | 73.2   | 7.6       |
| 70°-80°   | 25.6   | 2.7       |
| 80°-90°   | 2.7    | 0.3       |
| 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°    | 361.9  | 37.7      |
| 0°-40°    | 560.0  | 58.3      |
| 0°-60°    | 858.4  | 89.4      |
| 0°-90°    | 959.9  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 959.9  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 461 | 461 | 461 | 461  | 461  |      |
| 5°  | 478 | 471 | 463 | 459  | 458  | 46   |
| 15° | 495 | 479 | 454 | 444  | 443  | 139  |
| 25° | 449 | 427 | 395 | 393  | 398  | 206  |
| 35° | 340 | 325 | 304 | 311  | 316  | 213  |
| 45° | 227 | 220 | 215 | 224  | 226  | 176  |
| 55° | 143 | 140 | 139 | 144  | 144  | 129  |
| 65° | 83  | 78  | 71  | 67   | 70   | 83   |
| 75° | 37  | 31  | 19  | 16   | 16   | 40   |
| 85° | 4   | 2   | 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°    | 460.7 | 460.7 | 460.7 | 460.7 | 460.7 | 460.7  | 460.7 | 460.7  | 460.7 |
| 2.5°  | 467.5 | 466.2 | 464.4 | 461.9 | 459.4 | 457.5  | 456.9 | 456.3  | 456.3 |
| 5°    | 477.5 | 475.0 | 471.2 | 466.2 | 463.2 | 461.2  | 459.4 | 458.2  | 458.2 |
| 7.5°  | 484.3 | 481.8 | 476.3 | 469.3 | 465.0 | 461.2  | 458.7 | 456.9  | 456.9 |
| 10°   | 487.4 | 484.3 | 477.5 | 468.7 | 461.9 | 456.9  | 453.2 | 451.9  | 451.9 |
| 12.5° | 491.2 | 487.4 | 478.1 | 466.9 | 458.2 | 451.9  | 448.1 | 446.9  | 446.9 |
| 15°   | 494.9 | 490.5 | 478.6 | 465.7 | 454.4 | 446.9  | 443.8 | 443.3  | 443.3 |
| 17.5° | 493.0 | 487.4 | 473.7 | 458.2 | 445.8 | 438.2  | 435.2 | 435.2  | 435.7 |
| 20°   | 483.1 | 477.5 | 461.9 | 444.5 | 431.4 | 425.7  | 423.3 | 424.6  | 425.7 |
| 22.5° | 468.1 | 461.2 | 444.5 | 427.7 | 414.0 | 409.0  | 409.0 | 410.8  | 412.8 |
| 25°   | 449.4 | 443.3 | 427.0 | 408.3 | 395.2 | 391.6  | 392.8 | 395.9  | 398.4 |
| 27.5° | 428.2 | 421.4 | 404.7 | 387.1 | 374.1 | 372.2  | 375.3 | 379.8  | 381.0 |
| 30°   | 399.7 | 394.1 | 379.8 | 362.9 | 351.8 | 351.1  | 355.4 | 358.6  | 361.7 |
| 32.5° | 372.2 | 366.0 | 352.3 | 336.2 | 328.1 | 328.7  | 333.7 | 337.4  | 339.2 |
| 35°   | 340.5 | 334.9 | 324.9 | 311.8 | 304.4 | 305.7  | 311.2 | 315.0  | 315.6 |
| 37.5° | 310.7 | 306.9 | 296.9 | 287.0 | 281.3 | 283.8  | 288.8 | 293.1  | 293.1 |
| 40°   | 280.7 | 277.7 | 270.2 | 262.1 | 259.0 | 262.1  | 267.1 | 270.7  | 270.7 |
| 42.5° | 252.1 | 250.2 | 244.0 | 238.4 | 236.6 | 240.9  | 245.2 | 248.4  | 247.7 |
| 45°   | 226.6 | 224.8 | 220.3 | 216.0 | 215.4 | 219.7  | 223.5 | 225.3  | 226.0 |
| 47.5° | 203.6 | 202.3 | 198.6 | 195.5 | 195.5 | 199.8  | 202.9 | 204.8  | 205.4 |
| 50°   | 182.4 | 181.2 | 178.0 | 175.6 | 176.2 | 180.5  | 183.0 | 184.9  | 185.5 |
| 52.5° | 161.3 | 160.6 | 158.1 | 155.0 | 156.8 | 160.0  | 163.1 | 164.3  | 165.0 |
| 55°   | 143.2 | 143.2 | 140.1 | 137.6 | 138.8 | 141.9  | 143.8 | 144.4  | 144.4 |
| 57.5° | 127.0 | 126.3 | 122.7 | 120.2 | 120.7 | 123.9  | 125.1 | 125.7  | 125.7 |
| 60°   | 111.4 | 110.8 | 107.1 | 103.3 | 103.3 | 105.2  | 105.8 | 106.4  | 106.4 |
| 62.5° | 96.5  | 95.8  | 91.5  | 88.4  | 87.2  | 86.5   | 86.5  | 87.7   | 90.2  |
| 65°   | 82.8  | 82.2  | 77.8  | 72.8  | 71.0  | 69.1   | 67.3  | 68.5   | 69.8  |
| 67.5° | 70.3  | 69.1  | 64.8  | 60.4  | 56.0  | 52.9   | 49.8  | 51.7   | 54.2  |
| 70°   | 58.5  | 57.2  | 52.2  | 47.3  | 42.3  | 37.3   | 34.8  | 37.3   | 38.6  |
| 72.5° | 47.3  | 46.1  | 41.1  | 36.1  | 29.9  | 24.9   | 24.2  | 24.9   | 25.5  |
| 75°   | 36.8  | 36.1  | 31.2  | 25.5  | 19.3  | 15.6   | 15.6  | 15.6   | 15.6  |
| 77.5° | 27.4  | 26.2  | 21.2  | 16.2  | 11.2  | 8.8    | 8.1   | 8.1    | 8.1   |
| 80°   | 18.7  | 17.4  | 13.1  | 9.3   | 5.0   | 3.8    | 3.8   | 3.1    | 3.1   |
| 82.5° | 10.6  | 10.0  | 6.8   | 3.8   | 1.8   | 1.3    | 1.3   | 1.3    | 1.3   |
| 85°   | 4.3   | 3.8   | 2.5   | 1.3   | 0.6   | 0.6    | 0.6   | 0.6    | 0.6   |
| 87.5° | 0.6   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   |
| 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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