

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: P581008

Luminaire Tested: **HCC4S05D010MW-HM40525830-41WWBB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581008  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S05D010MW-HM40525830-41WWBB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

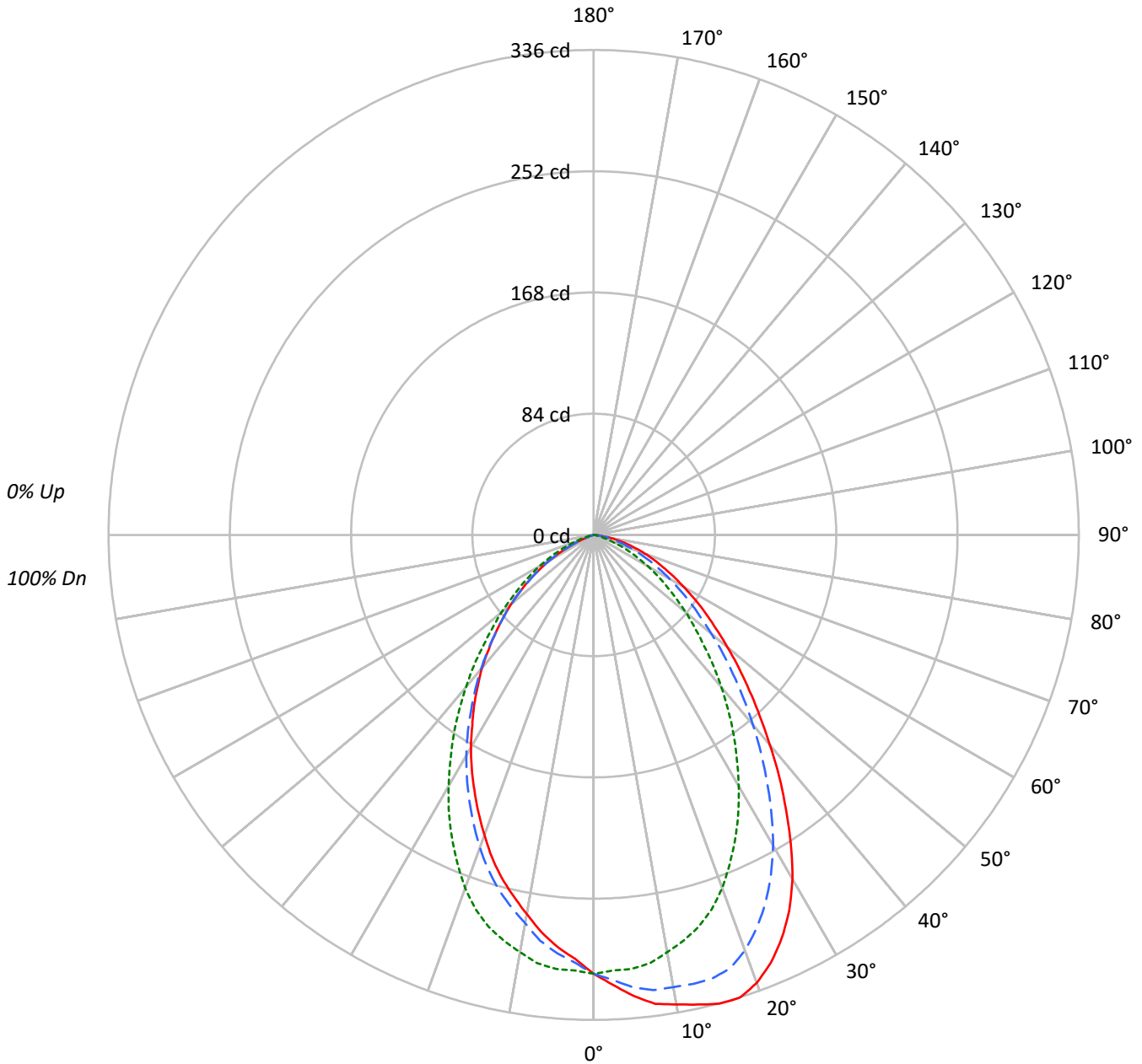
Lumens per Lamp: N/A  
Luminaire Lumens: 525.0 lumens  
Efficiency: N/A  
Efficacy: 87.5 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.04 / 1.12  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 6  
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 | 108 | 104 | 101 | 109 | 105 | 102 | 100 | 101 | 99  | 97  | 97  | 95  | 94  | 94  | 92  | 91  | 89  |    |    |    |  |  |  |  |   |
| 2   | 103 | 97  | 91  | 87  | 101 | 95  | 90  | 86  | 92  | 87  | 84  | 88  | 85  | 82  | 85  | 83  | 80  | 78  |    |    |    |  |  |  |  |   |
| 3   | 96  | 87  | 80  | 75  | 94  | 86  | 79  | 74  | 83  | 78  | 73  | 80  | 76  | 72  | 78  | 74  | 71  | 69  |    |    |    |  |  |  |  |   |
| 4   | 89  | 79  | 72  | 66  | 87  | 78  | 71  | 65  | 75  | 69  | 65  | 73  | 68  | 64  | 71  | 67  | 63  | 61  |    |    |    |  |  |  |  |   |
| 5   | 83  | 72  | 64  | 58  | 81  | 71  | 64  | 58  | 69  | 62  | 58  | 67  | 61  | 57  | 65  | 60  | 56  | 55  |    |    |    |  |  |  |  |   |
| 6   | 77  | 66  | 58  | 52  | 75  | 65  | 57  | 52  | 63  | 57  | 52  | 61  | 56  | 51  | 60  | 55  | 51  | 49  |    |    |    |  |  |  |  |   |
| 7   | 72  | 60  | 53  | 47  | 71  | 59  | 52  | 47  | 58  | 51  | 47  | 57  | 51  | 46  | 55  | 50  | 46  | 44  |    |    |    |  |  |  |  |   |
| 8   | 68  | 56  | 48  | 43  | 66  | 55  | 48  | 43  | 54  | 47  | 42  | 53  | 47  | 42  | 51  | 46  | 42  | 40  |    |    |    |  |  |  |  |   |
| 9   | 64  | 52  | 44  | 39  | 62  | 51  | 44  | 39  | 50  | 43  | 39  | 49  | 43  | 39  | 48  | 43  | 39  | 37  |    |    |    |  |  |  |  |   |
| 10  | 60  | 48  | 41  | 36  | 59  | 47  | 41  | 36  | 46  | 40  | 36  | 46  | 40  | 36  | 45  | 39  | 36  | 34  |    |    |    |  |  |  |  |   |

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

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 37497 | 37497 | 37497 |
| 5°  | 39720 | 37368 | 35486 |
| 10° | 41370 | 36760 | 33404 |
| 15° | 42944 | 35883 | 31413 |
| 20° | 43356 | 34167 | 29048 |
| 25° | 41959 | 31588 | 26593 |
| 30° | 39224 | 28628 | 24198 |
| 35° | 34949 | 25448 | 21743 |
| 40° | 30561 | 22124 | 19354 |
| 45° | 26602 | 18769 | 16746 |
| 50° | 23219 | 15927 | 14354 |
| 55° | 20365 | 13204 | 11613 |
| 60° | 17811 | 10657 | 8536  |
| 65° | 15498 | 7939  | 4816  |
| 70° | 13560 | 5157  | 1551  |
| 75° | 11152 | 2716  | 429   |
| 80° | 8311  | 1208  | 355   |
| 85° | 4812  | 708   | 708   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 28.7   | 5.5       |
| 10°-20°   | 80.3   | 15.3      |
| 20°-30°   | 111.0  | 21.1      |
| 30°-40°   | 111.6  | 21.3      |
| 40°-50°   | 90.1   | 17.2      |
| 50°-60°   | 60.9   | 11.6      |
| 60°-70°   | 31.0   | 5.9       |
| 70°-80°   | 9.9    | 1.9       |
| 80°-90°   | 1.5    | 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°    | 219.9  | 41.9      |
| 0°-40°    | 331.6  | 63.2      |
| 0°-60°    | 482.5  | 91.9      |
| 0°-90°    | 525.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 525.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 304 | 304 | 304 | 304  | 304  |      |
| 5°  | 321 | 315 | 302 | 291  | 287  | 31   |
| 15° | 336 | 318 | 281 | 254  | 246  | 95   |
| 25° | 308 | 282 | 232 | 204  | 195  | 141  |
| 35° | 232 | 210 | 169 | 148  | 144  | 145  |
| 45° | 152 | 137 | 108 | 96   | 96   | 118  |
| 55° | 95  | 82  | 61  | 54   | 54   | 85   |
| 65° | 53  | 43  | 27  | 18   | 16   | 53   |
| 75° | 23  | 16  | 6   | 1    | 1    | 25   |
| 85° | 3   | 2   | 0   | 0    | 0    | 5    |
| 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°    | 304.0 | 304.0 | 304.0 | 304.0 | 304.0 | 304.0  | 304.0 | 304.0  | 304.0 |
| 2.5°  | 312.1 | 310.4 | 308.6 | 305.7 | 302.1 | 298.7  | 296.6 | 294.9  | 294.0 |
| 5°    | 320.8 | 318.6 | 314.7 | 308.3 | 301.8 | 295.7  | 290.9 | 287.9  | 286.6 |
| 7.5°  | 327.7 | 324.6 | 318.1 | 309.1 | 299.2 | 289.7  | 283.6 | 279.2  | 277.5 |
| 10°   | 330.3 | 326.8 | 318.1 | 306.1 | 293.5 | 281.8  | 273.2 | 268.9  | 266.7 |
| 12.5° | 333.3 | 329.4 | 318.6 | 303.5 | 287.9 | 274.1  | 264.1 | 258.6  | 256.4 |
| 15°   | 336.3 | 331.2 | 318.1 | 299.5 | 281.0 | 265.0  | 254.2 | 248.6  | 246.0 |
| 17.5° | 336.3 | 330.3 | 314.7 | 293.1 | 271.9 | 255.0  | 243.0 | 236.4  | 234.3 |
| 20°   | 330.3 | 323.4 | 306.4 | 282.7 | 260.3 | 242.1  | 230.4 | 223.9  | 221.3 |
| 22.5° | 320.8 | 313.0 | 294.9 | 270.1 | 246.4 | 228.7  | 217.0 | 211.0  | 208.4 |
| 25°   | 308.3 | 300.4 | 281.5 | 255.9 | 232.1 | 214.4  | 203.6 | 197.9  | 195.4 |
| 27.5° | 293.5 | 284.9 | 265.8 | 240.4 | 217.0 | 200.1  | 190.2 | 185.0  | 182.8 |
| 30°   | 275.4 | 267.2 | 248.6 | 223.5 | 201.0 | 185.5  | 176.4 | 171.6  | 169.9 |
| 32.5° | 254.2 | 247.3 | 229.2 | 205.8 | 184.6 | 170.4  | 162.1 | 158.2  | 156.5 |
| 35°   | 232.1 | 225.6 | 209.6 | 188.1 | 169.0 | 155.6  | 147.9 | 145.3  | 144.4 |
| 37.5° | 211.3 | 205.8 | 190.2 | 170.4 | 153.0 | 141.3  | 134.5 | 132.7  | 131.9 |
| 40°   | 189.8 | 185.9 | 171.6 | 153.5 | 137.4 | 127.1  | 121.4 | 120.2  | 120.2 |
| 42.5° | 170.4 | 166.1 | 153.5 | 137.0 | 122.8 | 112.4  | 108.5 | 107.3  | 107.6 |
| 45°   | 152.5 | 148.2 | 136.7 | 121.4 | 107.6 | 99.0   | 96.0  | 96.0   | 96.0  |
| 47.5° | 136.2 | 132.2 | 121.4 | 105.9 | 94.7  | 87.7   | 84.8  | 84.8   | 85.1  |
| 50°   | 121.0 | 118.5 | 106.3 | 93.0  | 83.0  | 76.5   | 74.3  | 73.9   | 74.8  |
| 52.5° | 106.8 | 103.7 | 93.0  | 80.8  | 71.3  | 66.2   | 64.0  | 63.6   | 64.0  |
| 55°   | 94.7  | 91.3  | 81.7  | 70.0  | 61.4  | 56.2   | 53.6  | 53.1   | 54.0  |
| 57.5° | 83.0  | 80.4  | 70.5  | 60.0  | 51.9  | 46.6   | 44.5  | 43.7   | 44.0  |
| 60°   | 72.2  | 69.6  | 60.5  | 50.6  | 43.2  | 38.0   | 35.1  | 34.2   | 34.6  |
| 62.5° | 62.2  | 60.0  | 51.4  | 41.9  | 34.6  | 29.9   | 26.8  | 24.6   | 25.5  |
| 65°   | 53.1  | 51.0  | 43.2  | 33.7  | 27.2  | 22.0   | 17.7  | 16.0   | 16.5  |
| 67.5° | 45.4  | 42.8  | 35.4  | 26.8  | 20.3  | 14.6   | 10.0  | 9.1    | 9.1   |
| 70°   | 37.6  | 35.1  | 28.5  | 20.8  | 14.3  | 7.8    | 4.3   | 4.3    | 4.3   |
| 72.5° | 30.3  | 28.1  | 22.0  | 15.5  | 9.1   | 3.4    | 1.7   | 1.7    | 1.7   |
| 75°   | 23.4  | 21.6  | 16.5  | 10.8  | 5.7   | 1.7    | 1.2   | 0.9    | 0.9   |
| 77.5° | 17.3  | 15.5  | 11.7  | 7.4   | 3.4   | 0.9    | 0.9   | 0.9    | 0.9   |
| 80°   | 11.7  | 10.3  | 7.8   | 4.3   | 1.7   | 0.5    | 0.5   | 0.5    | 0.5   |
| 82.5° | 6.9   | 6.0   | 4.3   | 2.2   | 0.9   | 0.5    | 0.5   | 0.5    | 0.5   |
| 85°   | 3.4   | 2.6   | 1.7   | 0.9   | 0.5   | 0.5    | 0.5   | 0.5    | 0.5   |
| 87.5° | 0.9   | 0.5   | 0.5   | 0.5   | 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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