

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: P580057

Luminaire Tested: **HCC4S20D010MW-HM40525930-41WDBB**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580057  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-11)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S20D010MW-HM40525930-41WDBB  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

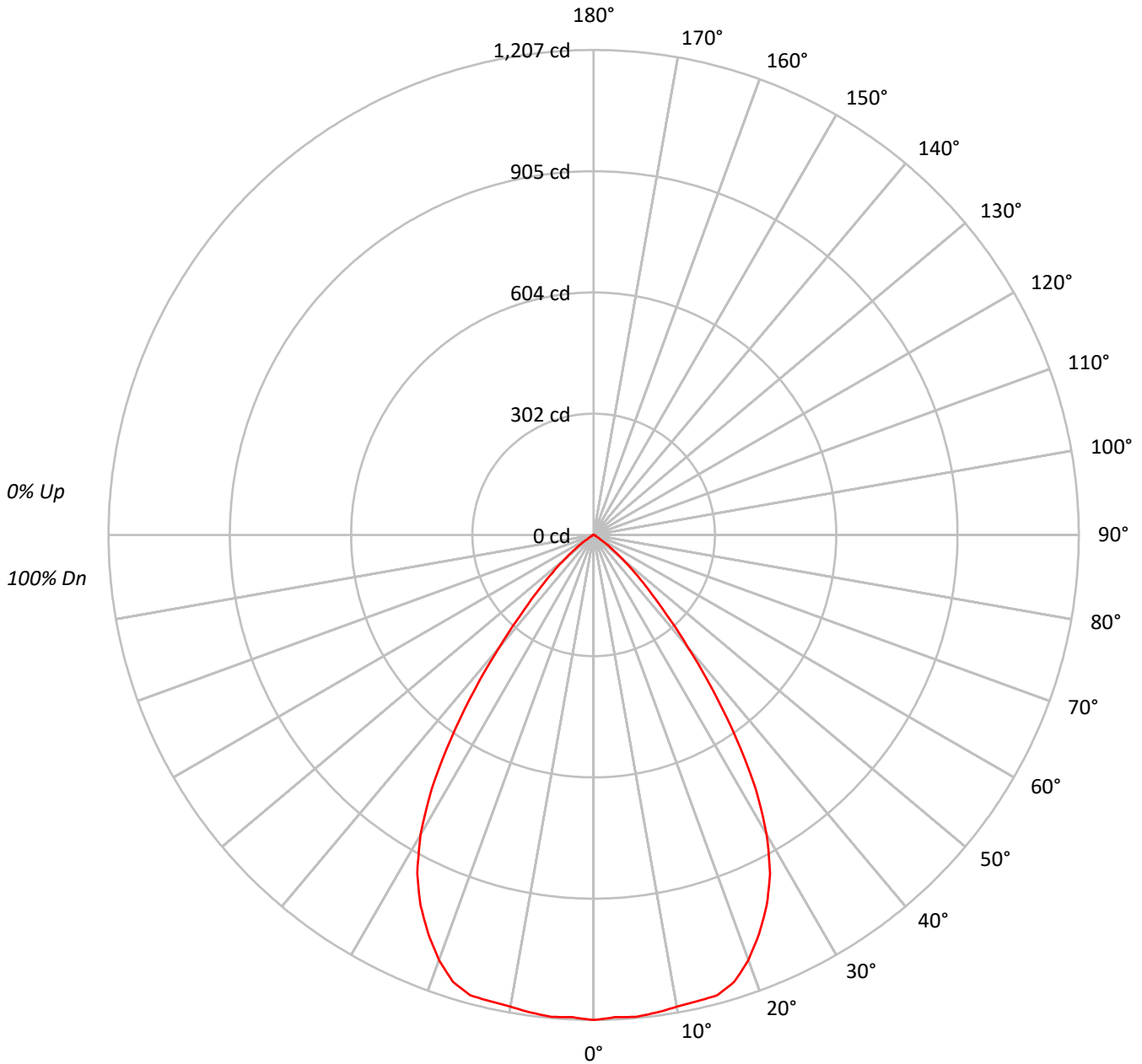
Lumens per Lamp: N/A  
Luminaire Lumens: 1493.0 lumens  
Efficiency: N/A  
Efficacy: 74.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1.1 / 1.03  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 20  
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 | 100 | 100 | 100 |
| 1   | 113 | 110 | 107 | 105 | 111 | 108 | 106 | 103 | 104 | 102 | 100 | 100 | 99  | 97  | 97  | 96  | 94  | 93  | 93  | 93  | 93  |
| 2   | 107 | 102 | 97  | 94  | 105 | 100 | 96  | 93  | 97  | 93  | 91  | 94  | 91  | 89  | 91  | 89  | 87  | 85  | 85  | 85  | 85  |
| 3   | 101 | 94  | 89  | 84  | 99  | 93  | 88  | 84  | 90  | 86  | 82  | 87  | 84  | 81  | 85  | 82  | 80  | 78  | 78  | 78  | 78  |
| 4   | 95  | 87  | 81  | 77  | 93  | 86  | 80  | 76  | 84  | 79  | 75  | 82  | 78  | 74  | 80  | 76  | 73  | 72  | 72  | 72  | 72  |
| 5   | 90  | 81  | 75  | 70  | 88  | 80  | 74  | 70  | 78  | 73  | 69  | 76  | 72  | 68  | 75  | 71  | 68  | 66  | 66  | 66  | 66  |
| 6   | 85  | 75  | 69  | 64  | 83  | 74  | 68  | 64  | 73  | 67  | 63  | 71  | 67  | 63  | 70  | 66  | 62  | 61  | 61  | 61  | 61  |
| 7   | 80  | 70  | 64  | 59  | 79  | 69  | 63  | 59  | 68  | 63  | 59  | 67  | 62  | 58  | 66  | 61  | 58  | 56  | 56  | 56  | 56  |
| 8   | 76  | 65  | 59  | 55  | 74  | 65  | 59  | 54  | 64  | 58  | 54  | 63  | 58  | 54  | 62  | 57  | 54  | 52  | 52  | 52  | 52  |
| 9   | 72  | 61  | 55  | 51  | 71  | 61  | 55  | 51  | 60  | 54  | 50  | 59  | 54  | 50  | 58  | 53  | 50  | 49  | 49  | 49  | 49  |
| 10  | 68  | 58  | 51  | 47  | 67  | 57  | 51  | 47  | 56  | 51  | 47  | 55  | 50  | 47  | 55  | 50  | 47  | 45  | 45  | 45  | 45  |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 148903 |
| 5°  | 149051 |
| 10° | 149321 |
| 15° | 151512 |
| 20° | 147722 |
| 25° | 138601 |
| 30° | 122601 |
| 35° | 93237  |
| 40° | 58723  |
| 45° | 33736  |
| 50° | 17903  |
| 55° | 7419   |
| 60° | 1974   |
| 65° | 1664   |
| 70° | 1226   |
| 75° | 1096   |
| 80° | 781    |
| 85° | 1557   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 114.5  | 7.7       |
| 10°-20°   | 332.2  | 22.3      |
| 20°-30°   | 463.6  | 31.1      |
| 30°-40°   | 381.6  | 25.6      |
| 40°-50°   | 157.2  | 10.5      |
| 50°-60°   | 35.4   | 2.4       |
| 60°-70°   | 5.7    | 0.4       |
| 70°-80°   | 2.1    | 0.1       |
| 80°-90°   | 0.7    | 0.1       |
| 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°    | 910.3  | 61.0      |
| 0°-40°    | 1291.9 | 86.5      |
| 0°-60°    | 1484.5 | 99.4      |
| 0°-90°    | 1493.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1493.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1207 |      |
| 5°  | 1204 | 114  |
| 15° | 1186 | 332  |
| 25° | 1018 | 464  |
| 35° | 619  | 382  |
| 45° | 193  | 157  |
| 55° | 34   | 35   |
| 65° | 6    | 6    |
| 75° | 2    | 2    |
| 85° | 1    | 1    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 1207.2 |
| 2.5°  | 1201.5 |
| 5°    | 1203.8 |
| 7.5°  | 1199.1 |
| 10°   | 1192.2 |
| 12.5° | 1188.8 |
| 15°   | 1186.5 |
| 17.5° | 1165.8 |
| 20°   | 1125.4 |
| 22.5° | 1074.9 |
| 25°   | 1018.4 |
| 27.5° | 950.5  |
| 30°   | 860.8  |
| 32.5° | 750.4  |
| 35°   | 619.2  |
| 37.5° | 486.8  |
| 40°   | 364.7  |
| 42.5° | 265.9  |
| 45°   | 193.4  |
| 47.5° | 138.1  |
| 50°   | 93.3   |
| 52.5° | 58.7   |
| 55°   | 34.5   |
| 57.5° | 17.2   |
| 60°   | 8.0    |
| 62.5° | 6.9    |
| 65°   | 5.7    |
| 67.5° | 4.6    |
| 70°   | 3.4    |
| 72.5° | 2.3    |
| 75°   | 2.3    |
| 77.5° | 1.1    |
| 80°   | 1.1    |
| 82.5° | 1.1    |
| 85°   | 1.1    |
| 87.5° | 0.0    |
| 90°   | 0.0    |

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— 0°-180°

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