

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: P580010

Luminaire Tested: **HC420D010-HM40525835-41MDH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580010  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC420D010-HM40525835-41MDH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" MEDIUM DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

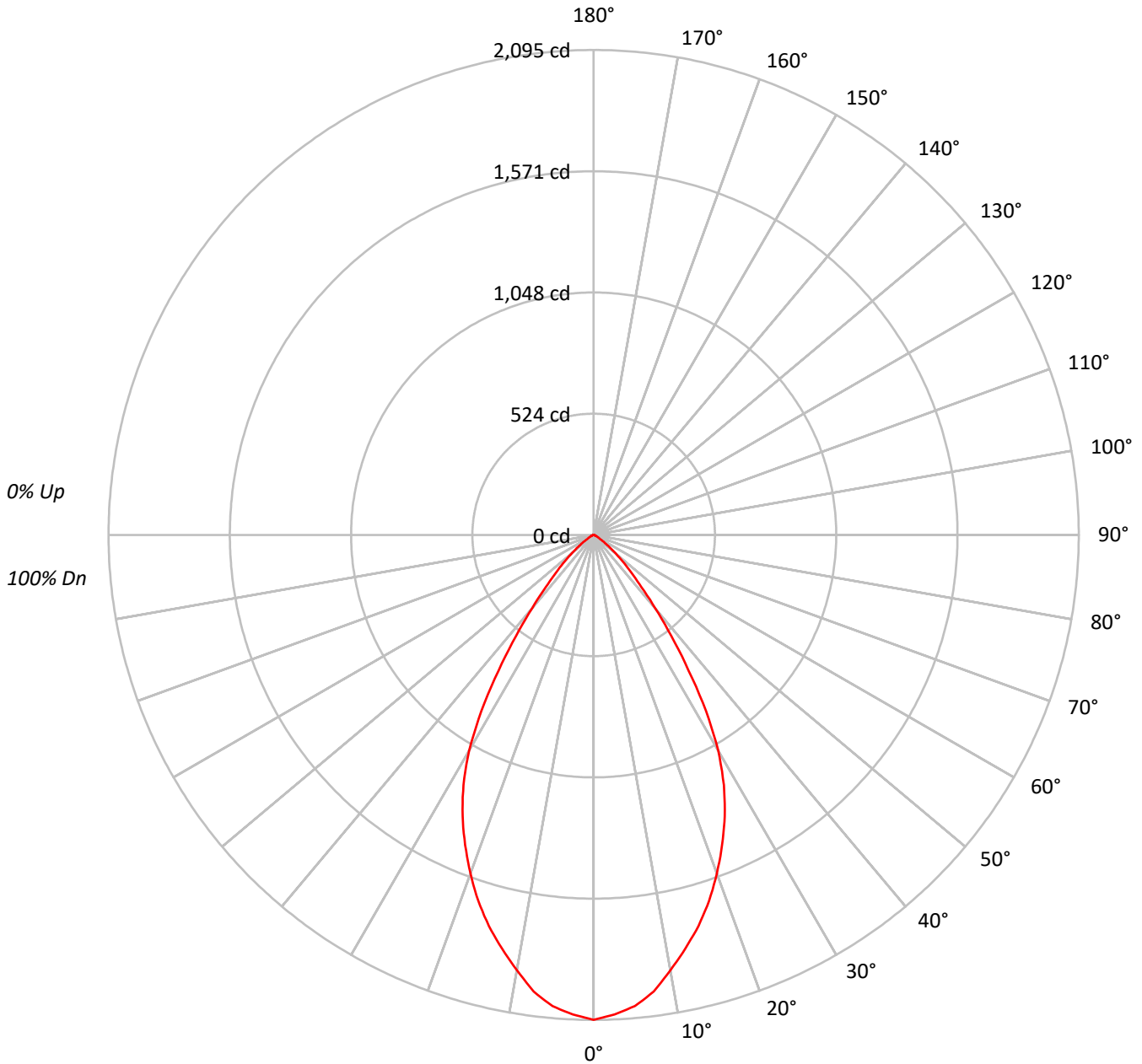
Lumens per Lamp: N/A  
Luminaire Lumens: 1996.0 lumens  
Efficiency: N/A  
Efficacy: 99.8 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 0.9 / 0.91  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (Ain): 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 | 108 | 105 | 111 | 108 | 106 | 104 | 104 | 102 | 100 | 100 | 99  | 97  | 97  | 96  | 95  | 93  | 93  | 93  | 93  |
| 2   | 107 | 102 | 98  | 94  | 105 | 100 | 96  | 93  | 97  | 94  | 91  | 94  | 91  | 89  | 91  | 89  | 87  | 86  | 86  | 86  | 86  |
| 3   | 101 | 95  | 89  | 85  | 99  | 93  | 88  | 84  | 91  | 86  | 83  | 88  | 85  | 82  | 86  | 83  | 81  | 79  | 79  | 79  | 79  |
| 4   | 96  | 88  | 82  | 78  | 94  | 87  | 81  | 77  | 85  | 80  | 76  | 82  | 79  | 75  | 81  | 77  | 74  | 73  | 73  | 73  | 73  |
| 5   | 91  | 82  | 76  | 71  | 89  | 81  | 75  | 71  | 79  | 74  | 70  | 77  | 73  | 70  | 76  | 72  | 69  | 67  | 67  | 67  | 67  |
| 6   | 86  | 76  | 70  | 66  | 84  | 76  | 70  | 65  | 74  | 69  | 65  | 73  | 68  | 64  | 71  | 67  | 64  | 62  | 62  | 62  | 62  |
| 7   | 81  | 71  | 65  | 61  | 80  | 71  | 65  | 61  | 69  | 64  | 60  | 68  | 63  | 60  | 67  | 63  | 60  | 58  | 58  | 58  | 58  |
| 8   | 77  | 67  | 61  | 56  | 76  | 66  | 60  | 56  | 65  | 60  | 56  | 64  | 59  | 56  | 63  | 59  | 56  | 54  | 54  | 54  | 54  |
| 9   | 73  | 63  | 57  | 53  | 72  | 63  | 57  | 53  | 62  | 56  | 52  | 61  | 56  | 52  | 60  | 55  | 52  | 51  | 51  | 51  | 51  |
| 10  | 70  | 59  | 53  | 49  | 69  | 59  | 53  | 49  | 58  | 53  | 49  | 57  | 52  | 49  | 57  | 52  | 49  | 47  | 47  | 47  | 47  |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 258397 |
| 5°  | 252995 |
| 10° | 239074 |
| 15° | 223291 |
| 20° | 204230 |
| 25° | 182370 |
| 30° | 153152 |
| 35° | 107738 |
| 40° | 66451  |
| 45° | 39789  |
| 50° | 23449  |
| 55° | 11677  |
| 60° | 6019   |
| 65° | 3940   |
| 70° | 2452   |
| 75° | 1954   |
| 80° | 994    |
| 85° | 1981   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 190.8  | 9.6       |
| 10°-20°   | 488.8  | 24.5      |
| 20°-30°   | 609.6  | 30.5      |
| 30°-40°   | 449.0  | 22.5      |
| 40°-50°   | 184.7  | 9.3       |
| 50°-60°   | 54.0   | 2.7       |
| 60°-70°   | 13.9   | 0.7       |
| 70°-80°   | 4.3    | 0.2       |
| 80°-90°   | 1.0    | 0.0       |
| 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°    | 1289.2 | 64.6      |
| 0°-40°    | 1738.2 | 87.1      |
| 0°-60°    | 1976.8 | 99.0      |
| 0°-90°    | 1996.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1996.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 2095 |      |
| 5°  | 2043 | 191  |
| 15° | 1749 | 489  |
| 25° | 1340 | 610  |
| 35° | 716  | 449  |
| 45° | 228  | 185  |
| 55° | 54   | 54   |
| 65° | 14   | 14   |
| 75° | 4    | 4    |
| 85° | 1    | 1    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 2094.9 |
| 2.5°  | 2073.1 |
| 5°    | 2043.3 |
| 7.5°  | 1989.0 |
| 10°   | 1908.8 |
| 12.5° | 1830.2 |
| 15°   | 1748.6 |
| 17.5° | 1657.6 |
| 20°   | 1555.9 |
| 22.5° | 1449.9 |
| 25°   | 1340.0 |
| 27.5° | 1217.8 |
| 30°   | 1075.3 |
| 32.5° | 902.8  |
| 35°   | 715.5  |
| 37.5° | 549.9  |
| 40°   | 412.7  |
| 42.5° | 305.4  |
| 45°   | 228.1  |
| 47.5° | 168.4  |
| 50°   | 122.2  |
| 52.5° | 84.2   |
| 55°   | 54.3   |
| 57.5° | 32.6   |
| 60°   | 24.4   |
| 62.5° | 17.7   |
| 65°   | 13.5   |
| 67.5° | 9.5    |
| 70°   | 6.8    |
| 72.5° | 5.4    |
| 75°   | 4.1    |
| 77.5° | 2.8    |
| 80°   | 1.4    |
| 82.5° | 1.4    |
| 85°   | 1.4    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)