

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: P580041

Luminaire Tested: **HC420D010-HM40525927-41MDH**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P580041  
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-HM40525927-41MDH  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" MEDIUM DISTRIBUTION, HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1520.9 lumens  
Efficiency: N/A  
Efficacy: 76.0 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

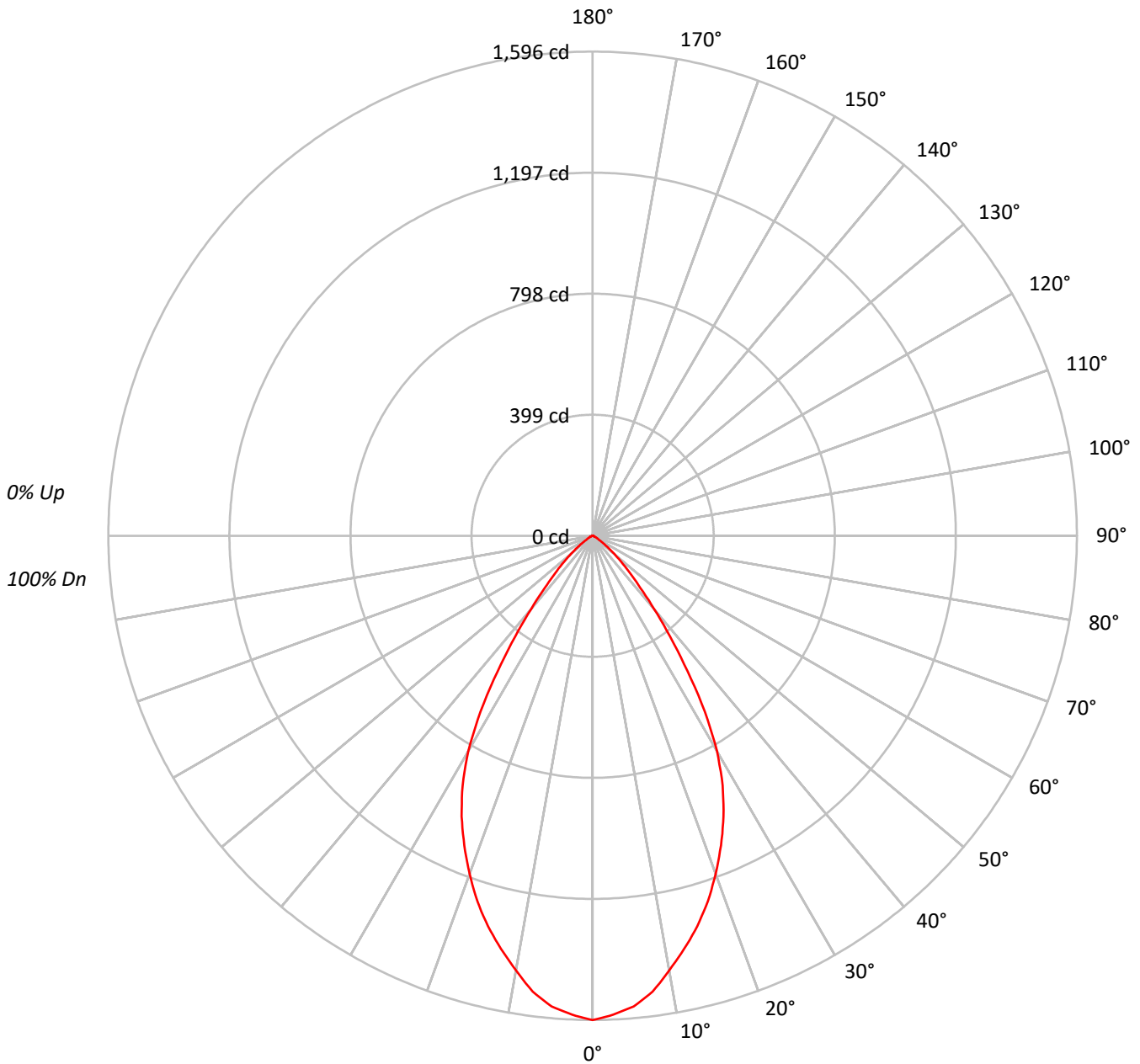
Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 196909 |
| 5°  | 192795 |
| 10° | 182186 |
| 15° | 170169 |
| 20° | 155637 |
| 25° | 138982 |
| 30° | 116705 |
| 35° | 82110  |
| 40° | 50640  |
| 45° | 30317  |
| 50° | 17865  |
| 55° | 8903   |
| 60° | 4588   |
| 65° | 3006   |
| 70° | 1875   |
| 75° | 1477   |
| 80° | 710    |
| 85° | 1415   |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 145.4  | 9.6       |
| 10°-20°   | 372.5  | 24.5      |
| 20°-30°   | 464.5  | 30.5      |
| 30°-40°   | 342.2  | 22.5      |
| 40°-50°   | 140.7  | 9.3       |
| 50°-60°   | 41.1   | 2.7       |
| 60°-70°   | 10.5   | 0.7       |
| 70°-80°   | 3.3    | 0.2       |
| 80°-90°   | 0.7    | 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°    | 982.4  | 64.6      |
| 0°-40°    | 1324.6 | 87.1      |
| 0°-60°    | 1506.4 | 99.0      |
| 0°-90°    | 1520.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1520.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 1596 |      |
| 5°  | 1557 | 145  |
| 15° | 1333 | 372  |
| 25° | 1021 | 465  |
| 35° | 545  | 342  |
| 45° | 174  | 141  |
| 55° | 41   | 41   |
| 65° | 10   | 11   |
| 75° | 3    | 3    |
| 85° | 1    | 1    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     |
|-------|--------|
| 0°    | 1596.4 |
| 2.5°  | 1579.9 |
| 5°    | 1557.1 |
| 7.5°  | 1515.6 |
| 10°   | 1454.6 |
| 12.5° | 1394.6 |
| 15°   | 1332.6 |
| 17.5° | 1263.2 |
| 20°   | 1185.7 |
| 22.5° | 1104.9 |
| 25°   | 1021.2 |
| 27.5° | 928.0  |
| 30°   | 819.4  |
| 32.5° | 688.0  |
| 35°   | 545.3  |
| 37.5° | 419.0  |
| 40°   | 314.5  |
| 42.5° | 232.7  |
| 45°   | 173.8  |
| 47.5° | 128.2  |
| 50°   | 93.1   |
| 52.5° | 64.1   |
| 55°   | 41.4   |
| 57.5° | 24.8   |
| 60°   | 18.6   |
| 62.5° | 13.4   |
| 65°   | 10.3   |
| 67.5° | 7.2    |
| 70°   | 5.2    |
| 72.5° | 4.1    |
| 75°   | 3.1    |
| 77.5° | 2.1    |
| 80°   | 1.0    |
| 82.5° | 1.0    |
| 85°   | 1.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)