

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: P583967

Luminaire Tested: **HC820D010-HM80520827-81MDC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P583967  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC820D010-HM80520827-81MDC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" MEDIUM DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2352.6 lumens  
Efficiency: N/A  
Efficacy: 117.6 lumens/watt  
Spacing Criteria (0/90/45): 0.58 / 0.58 / 0.67  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

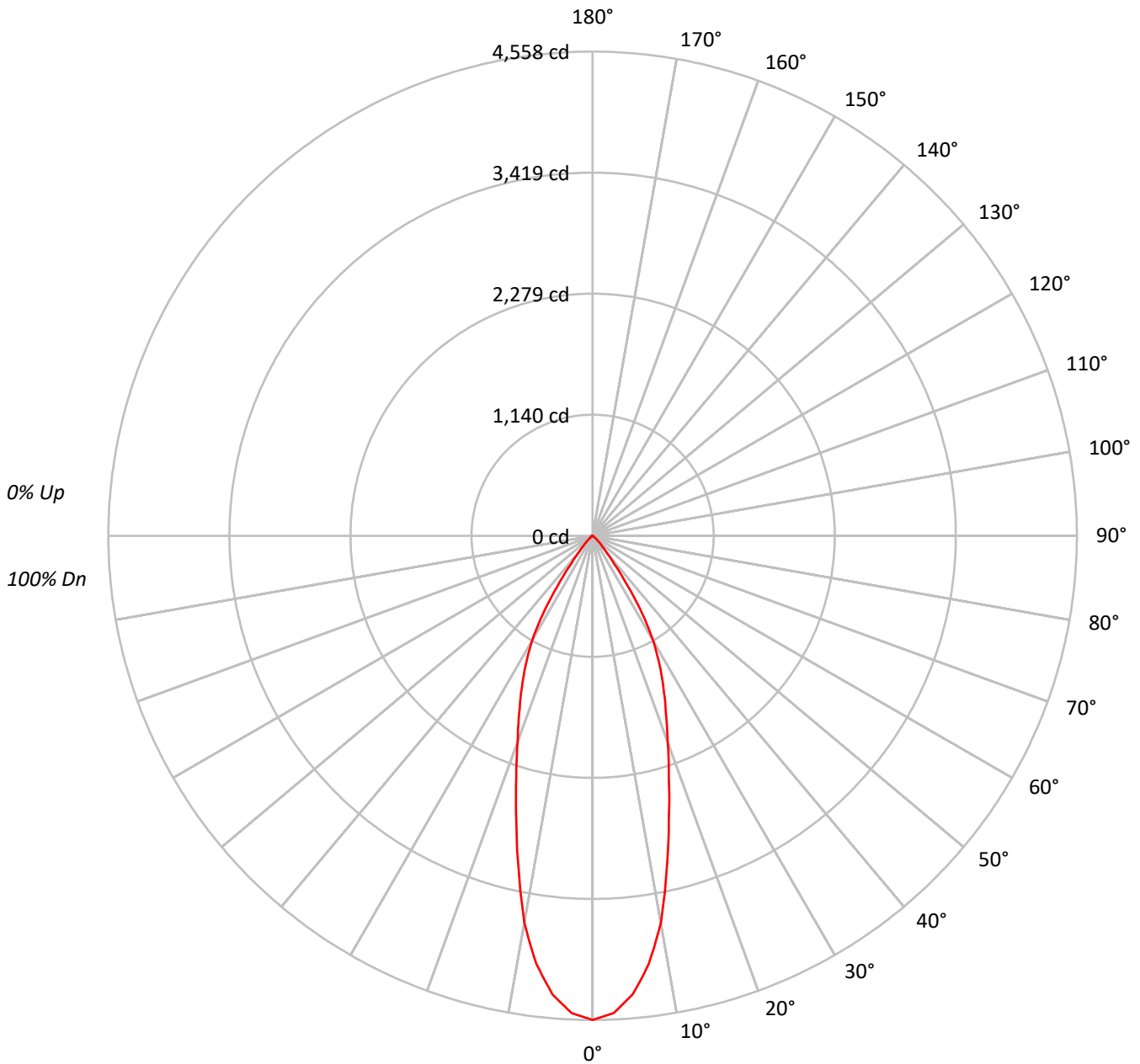
Input Watts (W): 20  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 |
| 1   | 114 | 111 | 109 | 107 | 112 | 109 | 107 | 105 | 105 | 104 | 102 | 102 | 100 | 99  | 98  | 97  | 96  | 95  |    |    | 95  |
| 2   | 109 | 105 | 101 | 98  | 107 | 103 | 100 | 97  | 100 | 97  | 95  | 97  | 95  | 93  | 94  | 92  | 91  | 89  |    |    | 89  |
| 3   | 104 | 98  | 94  | 90  | 102 | 97  | 93  | 90  | 94  | 91  | 88  | 92  | 89  | 87  | 90  | 87  | 85  | 84  |    |    | 84  |
| 4   | 100 | 93  | 88  | 84  | 98  | 92  | 87  | 83  | 90  | 86  | 82  | 88  | 84  | 82  | 86  | 83  | 81  | 79  |    |    | 79  |
| 5   | 95  | 88  | 82  | 78  | 94  | 87  | 82  | 78  | 85  | 81  | 77  | 83  | 80  | 77  | 82  | 79  | 76  | 75  |    |    | 75  |
| 6   | 91  | 83  | 78  | 74  | 90  | 82  | 77  | 74  | 81  | 76  | 73  | 79  | 76  | 73  | 78  | 75  | 72  | 71  |    |    | 71  |
| 7   | 87  | 79  | 73  | 70  | 86  | 78  | 73  | 69  | 77  | 72  | 69  | 76  | 72  | 69  | 75  | 71  | 68  | 67  |    |    | 67  |
| 8   | 84  | 75  | 70  | 66  | 82  | 74  | 69  | 66  | 73  | 69  | 65  | 72  | 68  | 65  | 71  | 68  | 65  | 64  |    |    | 64  |
| 9   | 80  | 71  | 66  | 62  | 79  | 71  | 66  | 62  | 70  | 65  | 62  | 69  | 65  | 62  | 68  | 65  | 62  | 61  |    |    | 61  |
| 10  | 77  | 68  | 63  | 59  | 76  | 68  | 63  | 59  | 67  | 62  | 59  | 66  | 62  | 59  | 65  | 62  | 59  | 58  |    |    | 58  |

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

|     |        |
|-----|--------|
|     | 0°     |
| 0°  | 140564 |
| 5°  | 134115 |
| 10° | 115789 |
| 15° | 88538  |
| 20° | 67747  |
| 25° | 53598  |
| 30° | 40488  |
| 35° | 21540  |
| 40° | 8204   |
| 45° | 3938   |
| 50° | 1679   |
| 55° | 704    |
| 60° | 271    |
| 65° | 219    |
| 70° | 126    |
| 75° | 0      |
| 80° | 0      |
| 85° | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 393.3  | 16.7      |
| 10°-20°   | 774.3  | 32.9      |
| 20°-30°   | 721.1  | 30.7      |
| 30°-40°   | 372.1  | 15.8      |
| 40°-50°   | 75.8   | 3.2       |
| 50°-60°   | 13.0   | 0.6       |
| 60°-70°   | 2.5    | 0.1       |
| 70°-80°   | 0.5    | 0.0       |
| 80°-90°   | 0.0    | 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°    | 1888.7 | 80.3      |
| 0°-40°    | 2260.8 | 96.1      |
| 0°-60°    | 2349.5 | 99.9      |
| 0°-90°    | 2352.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2352.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 4558 |      |
| 5°  | 4333 | 393  |
| 15° | 2773 | 774  |
| 25° | 1575 | 721  |
| 35° | 572  | 372  |
| 45° | 90   | 76   |
| 55° | 13   | 13   |
| 65° | 3    | 3    |
| 75° | 0    | 1    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 4558.4 |
| 2.5°  | 4497.3 |
| 5°    | 4332.7 |
| 7.5°  | 4061.9 |
| 10°   | 3697.9 |
| 12.5° | 3220.4 |
| 15°   | 2773.4 |
| 17.5° | 2386.2 |
| 20°   | 2064.5 |
| 22.5° | 1802.4 |
| 25°   | 1575.3 |
| 27.5° | 1359.8 |
| 30°   | 1137.1 |
| 32.5° | 872.1  |
| 35°   | 572.2  |
| 37.5° | 331.9  |
| 40°   | 203.8  |
| 42.5° | 133.9  |
| 45°   | 90.3   |
| 47.5° | 56.7   |
| 50°   | 35.0   |
| 52.5° | 20.3   |
| 55°   | 13.1   |
| 57.5° | 5.8    |
| 60°   | 4.4    |
| 62.5° | 3.0    |
| 65°   | 3.0    |
| 67.5° | 1.4    |
| 70°   | 1.4    |
| 72.5° | 1.4    |
| 75°   | 0.0    |
| 77.5° | 0.0    |
| 80°   | 0.0    |
| 82.5° | 0.0    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |



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— 0°-180°







(END OF REPORT)