

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: P584052

Luminaire Tested: **HC820D010-HM80520930-81NDH**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584052
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-2)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC820D010-HM80520930-81NDH
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" NARROW DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1772.4 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Spacing Criteria (0/90/45): 0.42 / 0.42 / 0.57
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

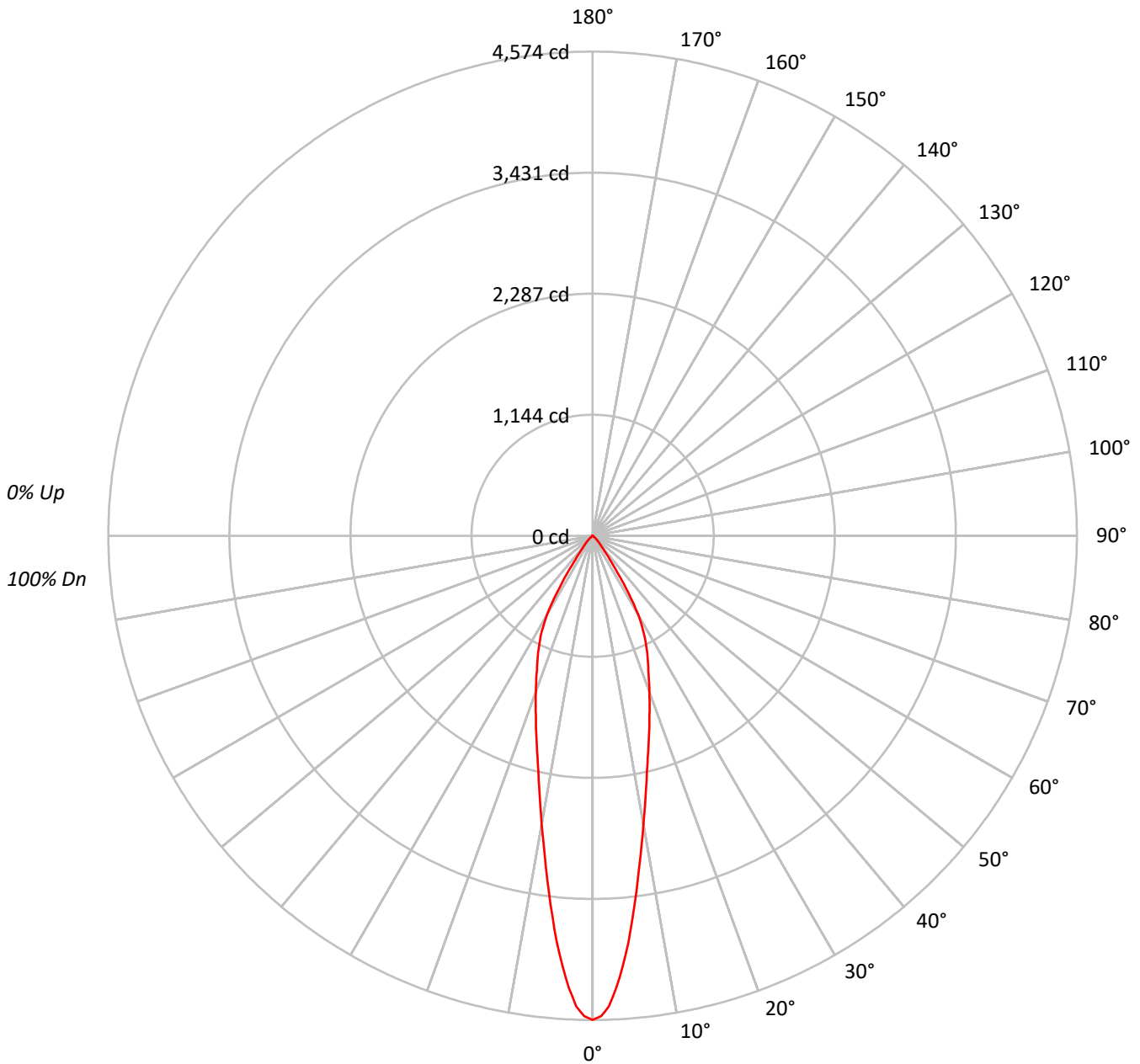
Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 |
| 1 | 114 | 112 | 109 | 107 | 112 | 109 | 107 | 106 | 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 | 99 | 94 | 91 | 102 | 97 | 93 | 90 | 95 | 91 | 88 | 92 | 90 | 87 | 90 | 88 | 86 | 84 | | | 84 |
| 4 | 100 | 93 | 88 | 84 | 98 | 92 | 87 | 84 | 90 | 86 | 83 | 88 | 85 | 82 | 86 | 83 | 81 | 80 | | | 80 |
| 5 | 96 | 88 | 83 | 79 | 94 | 87 | 82 | 79 | 86 | 81 | 78 | 84 | 80 | 77 | 82 | 79 | 77 | 75 | | | 75 |
| 6 | 92 | 84 | 78 | 75 | 90 | 83 | 78 | 74 | 81 | 77 | 74 | 80 | 76 | 73 | 79 | 76 | 73 | 72 | | | 72 |
| 7 | 88 | 80 | 74 | 70 | 87 | 79 | 74 | 70 | 78 | 73 | 70 | 77 | 73 | 70 | 76 | 72 | 69 | 68 | | | 68 |
| 8 | 84 | 76 | 71 | 67 | 83 | 75 | 70 | 67 | 74 | 70 | 66 | 73 | 69 | 66 | 72 | 69 | 66 | 65 | | | 65 |
| 9 | 81 | 72 | 67 | 64 | 80 | 72 | 67 | 63 | 71 | 66 | 63 | 70 | 66 | 63 | 69 | 66 | 63 | 62 | | | 62 |
| 10 | 78 | 69 | 64 | 61 | 77 | 69 | 64 | 61 | 68 | 63 | 60 | 67 | 63 | 60 | 67 | 63 | 60 | 59 | | | 59 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|--------|
| | 0° |
| 0° | 141033 |
| 5° | 119486 |
| 10° | 86690 |
| 15° | 65103 |
| 20° | 51366 |
| 25° | 41435 |
| 30° | 30704 |
| 35° | 12441 |
| 40° | 5249 |
| 45° | 2813 |
| 50° | 1266 |
| 55° | 634 |
| 60° | 407 |
| 65° | 285 |
| 70° | 234 |
| 75° | 155 |
| 80° | 231 |
| 85° | 460 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 331.4 | 18.7 |
| 10°-20° | 572.8 | 32.3 |
| 20°-30° | 553.8 | 31.2 |
| 30°-40° | 243.2 | 13.7 |
| 40°-50° | 52.6 | 3.0 |
| 50°-60° | 11.8 | 0.7 |
| 60°-70° | 4.0 | 0.2 |
| 70°-80° | 1.5 | 0.1 |
| 80°-90° | 1.2 | 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° | 1458.0 | 82.3 |
| 0°-40° | 1701.2 | 96.0 |
| 0°-60° | 1765.6 | 99.6 |
| 0°-90° | 1772.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1772.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 4574 | |
| 5° | 3860 | 331 |
| 15° | 2039 | 573 |
| 25° | 1218 | 554 |
| 35° | 330 | 243 |
| 45° | 64 | 53 |
| 55° | 12 | 12 |
| 65° | 4 | 4 |
| 75° | 1 | 2 |
| 85° | 1 | 1 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 4573.6 |
| 1° | 4539.4 |
| 2° | 4445.9 |
| 3° | 4277.4 |
| 4° | 4075.9 |
| 5° | 3860.1 |
| 6° | 3624.4 |
| 7° | 3387.4 |
| 8° | 3164.9 |
| 9° | 2958.2 |
| 10° | 2768.6 |
| 11° | 2589.6 |
| 12° | 2429.0 |
| 13° | 2282.8 |
| 14° | 2153.8 |
| 15° | 2039.3 |
| 17.5° | 1782.6 |
| 20° | 1565.3 |
| 22.5° | 1374.4 |
| 25° | 1217.8 |
| 27.5° | 1058.5 |
| 30° | 862.3 |
| 32.5° | 585.8 |
| 35° | 330.5 |
| 37.5° | 194.8 |
| 40° | 130.4 |
| 42.5° | 92.2 |
| 45° | 64.5 |
| 47.5° | 42.1 |
| 50° | 26.4 |
| 52.5° | 15.8 |
| 55° | 11.8 |
| 57.5° | 9.2 |
| 60° | 6.6 |
| 62.5° | 5.3 |
| 65° | 3.9 |
| 67.5° | 2.6 |
| 70° | 2.6 |
| 72.5° | 1.3 |
| 75° | 1.3 |
| 77.5° | 1.3 |
| 80° | 1.3 |
| 82.5° | 1.3 |



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CANDELA DISTRIBUTION (continued):

0°
90° | 0.0



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— 0°-180°







| | | |
|-------|--|-----|
| 85° | | 1.3 |
| 87.5° | | 1.3 |



(END OF REPORT)