

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: P581023

Luminaire Tested: **HC405D010-HM40525835-41WDW**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P581023
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-9)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC405D010-HM40525835-41WDW
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WIDE DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 667.8 lumens
Efficiency: N/A
Efficacy: 111.3 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 1.07 / 1.04
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

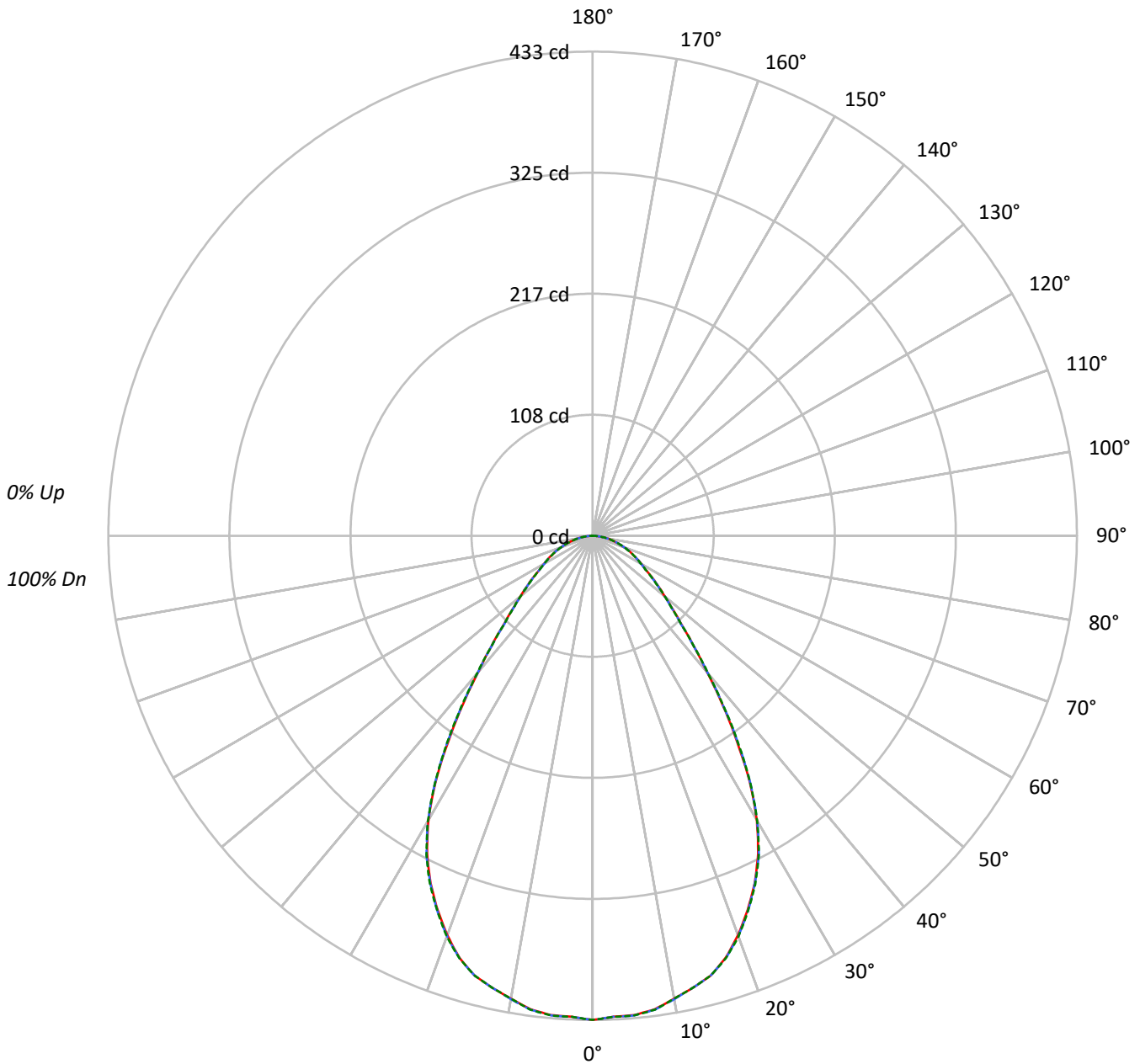
Input Watts (W): 6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 94 | 92 | 90 | 89 | 89 | 89 | 89 |
| 2 | 103 | 97 | 91 | 87 | 101 | 95 | 90 | 86 | 91 | 87 | 84 | 88 | 85 | 82 | 85 | 83 | 80 | 78 | 78 | 78 | 78 |
| 3 | 96 | 87 | 81 | 76 | 94 | 86 | 80 | 75 | 83 | 78 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 69 | 69 | 69 | 69 |
| 4 | 90 | 80 | 72 | 67 | 87 | 78 | 72 | 66 | 76 | 70 | 66 | 74 | 69 | 65 | 72 | 67 | 64 | 62 | 62 | 62 | 62 |
| 5 | 84 | 73 | 65 | 60 | 82 | 72 | 65 | 59 | 70 | 64 | 59 | 68 | 63 | 58 | 66 | 62 | 58 | 56 | 56 | 56 | 56 |
| 6 | 78 | 67 | 59 | 54 | 77 | 66 | 59 | 54 | 64 | 58 | 53 | 63 | 57 | 53 | 61 | 56 | 53 | 51 | 51 | 51 | 51 |
| 7 | 73 | 62 | 54 | 49 | 72 | 61 | 54 | 49 | 60 | 53 | 49 | 58 | 53 | 48 | 57 | 52 | 48 | 46 | 46 | 46 | 46 |
| 8 | 69 | 57 | 50 | 45 | 68 | 57 | 50 | 45 | 55 | 49 | 45 | 54 | 49 | 44 | 53 | 48 | 44 | 42 | 42 | 42 | 42 |
| 9 | 65 | 53 | 46 | 41 | 64 | 53 | 46 | 41 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 39 | 39 | 39 | 39 |
| 10 | 61 | 50 | 43 | 38 | 60 | 49 | 43 | 38 | 48 | 42 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 36 | 36 | 36 | 36 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 53396 | 53396 | 53396 |
| 5° | 53266 | 53316 | 53316 |
| 10° | 52642 | 52692 | 52642 |
| 15° | 52024 | 52024 | 52024 |
| 20° | 49879 | 49998 | 50063 |
| 25° | 46654 | 46708 | 46831 |
| 30° | 41802 | 41931 | 41931 |
| 35° | 33940 | 34211 | 34271 |
| 40° | 25602 | 25747 | 25827 |
| 45° | 19624 | 19537 | 19537 |
| 50° | 16157 | 16081 | 16081 |
| 55° | 13871 | 13784 | 13784 |
| 60° | 12384 | 12261 | 12261 |
| 65° | 11616 | 11616 | 11616 |
| 70° | 10855 | 10855 | 10855 |
| 75° | 9865 | 10056 | 9865 |
| 80° | 9163 | 8950 | 9163 |
| 85° | 7501 | 7501 | 7501 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 40.8 | 6.1 |
| 10°-20° | 114.1 | 17.1 |
| 20°-30° | 156.8 | 23.5 |
| 30°-40° | 141.0 | 21.1 |
| 40°-50° | 89.1 | 13.3 |
| 50°-60° | 58.1 | 8.7 |
| 60°-70° | 39.4 | 5.9 |
| 70°-80° | 22.2 | 3.3 |
| 80°-90° | 6.2 | 0.9 |
| 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° | 311.8 | 46.7 |
| 0°-40° | 452.8 | 67.8 |
| 0°-60° | 600.0 | 89.8 |
| 0°-90° | 667.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 667.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 433 | 433 | 433 | 433 | 433 | |
| 5° | 430 | 430 | 431 | 431 | 431 | 41 |
| 15° | 407 | 407 | 407 | 407 | 407 | 114 |
| 25° | 343 | 343 | 343 | 344 | 344 | 156 |
| 35° | 225 | 226 | 227 | 228 | 228 | 140 |
| 45° | 112 | 112 | 112 | 112 | 112 | 89 |
| 55° | 64 | 64 | 64 | 64 | 64 | 58 |
| 65° | 40 | 40 | 40 | 40 | 40 | 40 |
| 75° | 21 | 21 | 21 | 21 | 21 | 22 |
| 85° | 5 | 5 | 5 | 5 | 5 | 6 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 432.9 | 432.9 | 432.9 | 432.9 | 432.9 |
| 2.5° | 430.6 | 430.6 | 430.6 | 430.6 | 430.6 |
| 5° | 430.2 | 430.2 | 430.6 | 430.6 | 430.6 |
| 7.5° | 427.0 | 427.4 | 427.4 | 427.4 | 427.4 |
| 10° | 420.3 | 420.3 | 420.7 | 420.7 | 420.3 |
| 12.5° | 414.0 | 414.0 | 414.0 | 414.5 | 414.0 |
| 15° | 407.4 | 407.4 | 407.4 | 407.4 | 407.4 |
| 17.5° | 395.7 | 396.1 | 396.1 | 396.1 | 396.1 |
| 20° | 380.0 | 380.9 | 380.9 | 381.4 | 381.4 |
| 22.5° | 362.1 | 362.5 | 363.0 | 363.4 | 363.0 |
| 25° | 342.8 | 343.2 | 343.2 | 344.1 | 344.1 |
| 27.5° | 320.4 | 320.9 | 321.8 | 321.8 | 321.8 |
| 30° | 293.5 | 294.0 | 294.4 | 294.4 | 294.4 |
| 32.5° | 261.7 | 261.7 | 262.5 | 263.0 | 262.5 |
| 35° | 225.4 | 226.3 | 227.2 | 228.0 | 227.6 |
| 37.5° | 190.9 | 191.8 | 192.3 | 192.3 | 192.7 |
| 40° | 159.0 | 159.9 | 159.9 | 160.8 | 160.4 |
| 42.5° | 133.9 | 133.5 | 133.5 | 134.4 | 133.9 |
| 45° | 112.5 | 112.0 | 112.0 | 112.0 | 112.0 |
| 47.5° | 96.8 | 96.4 | 96.4 | 96.4 | 96.4 |
| 50° | 84.2 | 83.8 | 83.8 | 83.8 | 83.8 |
| 52.5° | 73.9 | 73.4 | 73.4 | 73.4 | 73.0 |
| 55° | 64.5 | 64.5 | 64.1 | 64.5 | 64.1 |
| 57.5° | 56.0 | 56.0 | 56.0 | 56.0 | 56.0 |
| 60° | 50.2 | 49.7 | 49.7 | 49.7 | 49.7 |
| 62.5° | 44.8 | 44.8 | 44.8 | 44.8 | 44.8 |
| 65° | 39.8 | 39.8 | 39.8 | 39.8 | 39.8 |
| 67.5° | 35.0 | 34.5 | 35.0 | 35.0 | 34.5 |
| 70° | 30.1 | 29.6 | 30.1 | 30.1 | 30.1 |
| 72.5° | 25.1 | 25.1 | 25.1 | 25.5 | 25.1 |
| 75° | 20.7 | 21.1 | 21.1 | 21.1 | 20.7 |
| 77.5° | 16.6 | 17.0 | 16.6 | 16.6 | 16.6 |
| 80° | 12.9 | 12.6 | 12.6 | 12.6 | 12.9 |
| 82.5° | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 85° | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 |
| 87.5° | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)