

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P581079

Luminaire Tested: **HCC4S05D010MW-HM40525930-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P581079
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S05D010MW-HM40525930-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

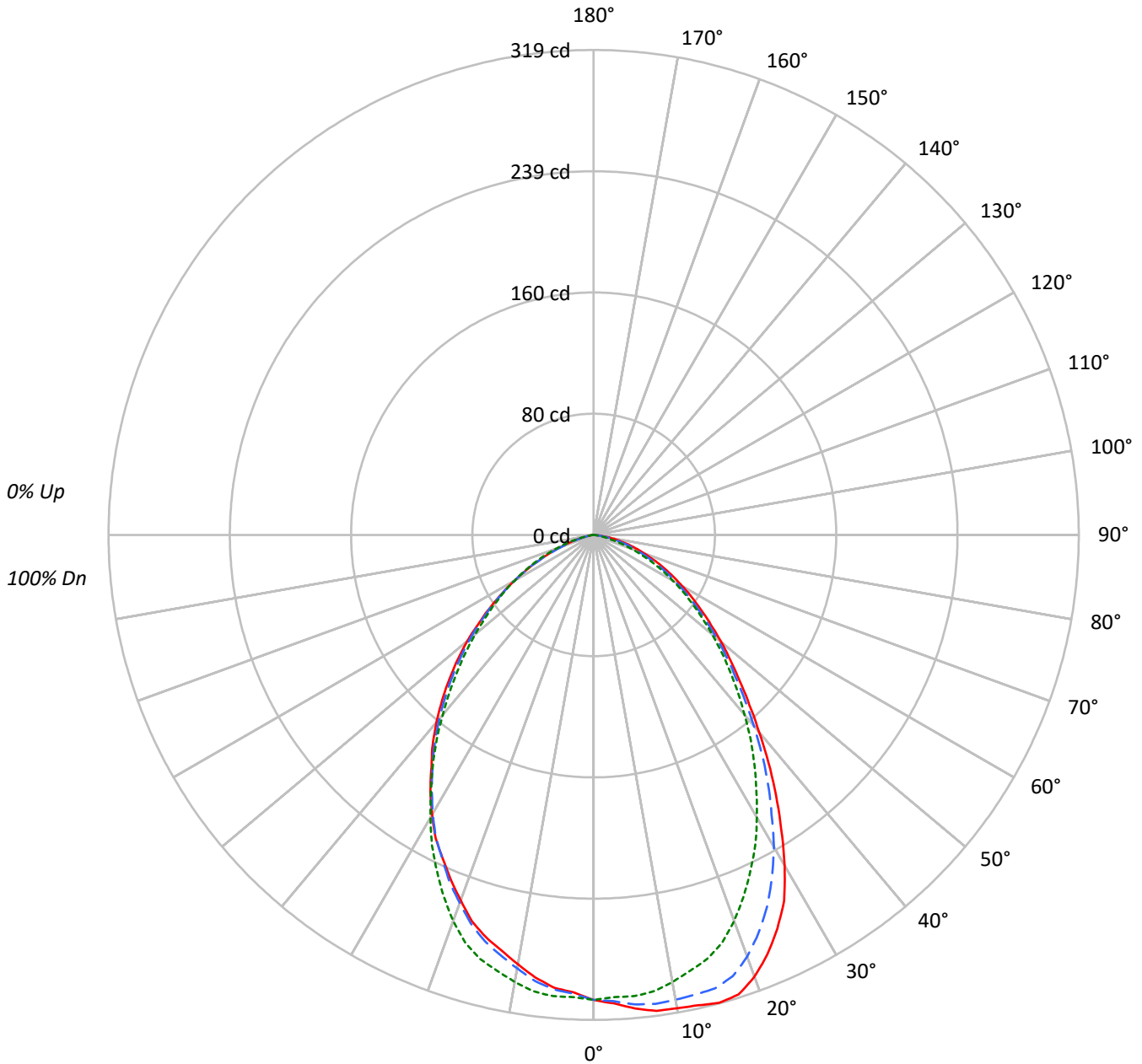
Lumens per Lamp: N/A
Luminaire Lumens: 582.9 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 6
Input Voltage (V): NR
Input Current (A_{in}): 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 | 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 | 111 | 107 | 104 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | 88 | | | |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 84 | 90 | 86 | 82 | 87 | 84 | 80 | 84 | 81 | 79 | 77 | | | | | 77 | | | |
| 3 | 95 | 86 | 79 | 73 | 92 | 84 | 78 | 73 | 81 | 76 | 71 | 79 | 74 | 70 | 76 | 72 | 69 | 67 | | | | | 67 | | | |
| 4 | 88 | 77 | 70 | 64 | 86 | 76 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 | | | | | 59 | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 52 | | | | | 52 | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 60 | 54 | 49 | 58 | 53 | 49 | 47 | | | | | 47 | | | |
| 7 | 71 | 58 | 51 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 45 | 55 | 49 | 44 | 54 | 48 | 44 | 42 | | | | | 42 | | | |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | | | 38 | | | |
| 9 | 62 | 50 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | 35 | | | |
| 10 | 58 | 46 | 39 | 34 | 57 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 32 | | | | | 32 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|-------|-------|-------|
| 0° | 37731 | 37731 | 37731 |
| 5° | 38718 | 37715 | 37021 |
| 10° | 39591 | 37399 | 35921 |
| 15° | 40697 | 36866 | 34976 |
| 20° | 40599 | 35454 | 33564 |
| 25° | 38883 | 33194 | 31956 |
| 30° | 35778 | 30565 | 30252 |
| 35° | 31471 | 27736 | 27977 |
| 40° | 27228 | 24829 | 25875 |
| 45° | 23654 | 22084 | 23409 |
| 50° | 20993 | 19477 | 20782 |
| 55° | 18623 | 17075 | 17827 |
| 60° | 16578 | 14801 | 14801 |
| 65° | 14739 | 12317 | 11528 |
| 70° | 12731 | 9341 | 8223 |
| 75° | 10675 | 6148 | 5099 |
| 80° | 8098 | 2983 | 2628 |
| 85° | 4387 | 1132 | 1132 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 29.0 | 5.0 |
| 10°-20° | 82.1 | 14.1 |
| 20°-30° | 115.8 | 19.9 |
| 30°-40° | 119.6 | 20.5 |
| 40°-50° | 101.4 | 17.4 |
| 50°-60° | 73.8 | 12.7 |
| 60°-70° | 43.1 | 7.4 |
| 70°-80° | 16.0 | 2.7 |
| 80°-90° | 2.1 | 0.4 |
| 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° | 226.9 | 38.9 |
| 0°-40° | 346.5 | 59.4 |
| 0°-60° | 521.7 | 89.5 |
| 0°-90° | 582.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 582.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 306 | 306 | 306 | 306 | 306 | |
| 5° | 313 | 310 | 305 | 300 | 299 | 30 |
| 15° | 319 | 309 | 289 | 277 | 274 | 90 |
| 25° | 286 | 270 | 244 | 235 | 235 | 131 |
| 35° | 209 | 200 | 184 | 185 | 186 | 131 |
| 45° | 136 | 132 | 127 | 131 | 134 | 106 |
| 55° | 87 | 82 | 79 | 82 | 83 | 78 |
| 65° | 50 | 46 | 42 | 40 | 40 | 50 |
| 75° | 22 | 19 | 13 | 10 | 11 | 24 |
| 85° | 3 | 2 | 1 | 1 | 1 | 4 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 305.9 | 305.9 | 305.9 | 305.9 | 305.9 | 305.9 | 305.9 | 305.9 | 305.9 |
| 2.5° | 308.5 | 307.7 | 307.0 | 305.9 | 304.3 | 303.2 | 302.0 | 301.2 | 301.2 |
| 5° | 312.7 | 311.6 | 310.0 | 307.4 | 304.6 | 302.4 | 300.1 | 299.0 | 299.0 |
| 7.5° | 315.8 | 314.2 | 311.1 | 307.4 | 302.8 | 299.4 | 296.0 | 294.4 | 293.6 |
| 10° | 316.1 | 314.6 | 310.4 | 304.6 | 298.6 | 293.3 | 289.5 | 287.3 | 286.8 |
| 12.5° | 316.9 | 315.0 | 309.6 | 301.7 | 293.6 | 287.3 | 283.1 | 280.8 | 280.0 |
| 15° | 318.7 | 316.1 | 308.8 | 298.6 | 288.7 | 281.1 | 276.6 | 274.7 | 273.9 |
| 17.5° | 316.9 | 313.0 | 304.3 | 292.1 | 281.1 | 272.7 | 268.2 | 266.3 | 266.3 |
| 20° | 309.3 | 305.4 | 295.2 | 281.9 | 270.1 | 262.2 | 257.5 | 256.4 | 255.7 |
| 22.5° | 298.6 | 294.4 | 283.4 | 269.3 | 257.5 | 250.4 | 247.3 | 245.8 | 245.4 |
| 25° | 285.7 | 281.5 | 269.8 | 255.3 | 243.9 | 237.8 | 235.2 | 235.2 | 234.8 |
| 27.5° | 271.3 | 265.9 | 253.8 | 241.3 | 230.2 | 225.6 | 224.5 | 224.5 | 225.0 |
| 30° | 251.2 | 247.3 | 237.1 | 225.0 | 214.6 | 211.6 | 211.6 | 212.4 | 212.4 |
| 32.5° | 229.5 | 226.8 | 217.7 | 207.0 | 199.1 | 197.1 | 197.9 | 199.4 | 199.9 |
| 35° | 209.0 | 205.9 | 199.9 | 190.3 | 184.2 | 183.5 | 184.7 | 185.8 | 185.8 |
| 37.5° | 188.9 | 185.8 | 181.6 | 174.0 | 169.5 | 169.8 | 171.4 | 172.9 | 174.0 |
| 40° | 169.1 | 166.7 | 163.8 | 157.7 | 154.2 | 155.7 | 157.7 | 159.1 | 160.7 |
| 42.5° | 151.6 | 149.3 | 147.0 | 142.4 | 140.2 | 142.1 | 144.4 | 145.8 | 147.4 |
| 45° | 135.6 | 134.2 | 131.8 | 128.0 | 126.6 | 128.4 | 131.1 | 132.6 | 134.2 |
| 47.5° | 121.9 | 121.2 | 118.2 | 114.7 | 114.0 | 115.9 | 118.2 | 120.1 | 121.2 |
| 50° | 109.4 | 108.3 | 105.7 | 102.2 | 101.5 | 104.4 | 106.0 | 107.1 | 108.3 |
| 52.5° | 97.3 | 96.1 | 93.1 | 90.0 | 90.0 | 92.3 | 93.4 | 93.9 | 95.0 |
| 55° | 86.6 | 85.5 | 82.4 | 80.1 | 79.4 | 81.3 | 82.1 | 82.1 | 82.9 |
| 57.5° | 76.7 | 75.6 | 72.5 | 69.9 | 69.6 | 70.7 | 70.7 | 70.7 | 71.1 |
| 60° | 67.2 | 66.1 | 63.1 | 60.8 | 60.0 | 60.4 | 60.0 | 59.7 | 60.0 |
| 62.5° | 58.5 | 57.3 | 54.4 | 51.6 | 51.0 | 51.0 | 49.7 | 49.4 | 49.7 |
| 65° | 50.5 | 48.6 | 46.3 | 43.7 | 42.2 | 41.1 | 39.5 | 39.5 | 39.5 |
| 67.5° | 42.6 | 41.1 | 38.4 | 35.8 | 33.8 | 31.9 | 29.6 | 30.4 | 30.8 |
| 70° | 35.3 | 34.2 | 31.1 | 28.5 | 25.9 | 23.6 | 21.7 | 22.4 | 22.8 |
| 72.5° | 28.8 | 27.4 | 24.7 | 21.7 | 19.4 | 16.3 | 15.2 | 16.0 | 16.0 |
| 75° | 22.4 | 20.9 | 18.6 | 15.5 | 12.9 | 10.2 | 10.2 | 10.7 | 10.7 |
| 77.5° | 16.7 | 15.2 | 12.9 | 10.2 | 7.9 | 6.1 | 6.5 | 6.5 | 6.5 |
| 80° | 11.4 | 10.2 | 8.4 | 6.1 | 4.2 | 3.4 | 3.4 | 3.4 | 3.7 |
| 82.5° | 6.5 | 5.7 | 4.5 | 3.1 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| 85° | 3.1 | 2.3 | 1.9 | 1.1 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 87.5° | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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Scaled Data Report



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

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