

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: P580092

Luminaire Tested: **HC420D010-HM40525935-41WWWB**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P580092
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-18)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC420D010-HM40525935-41WWWB
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1832.2 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.07 / 1.15
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

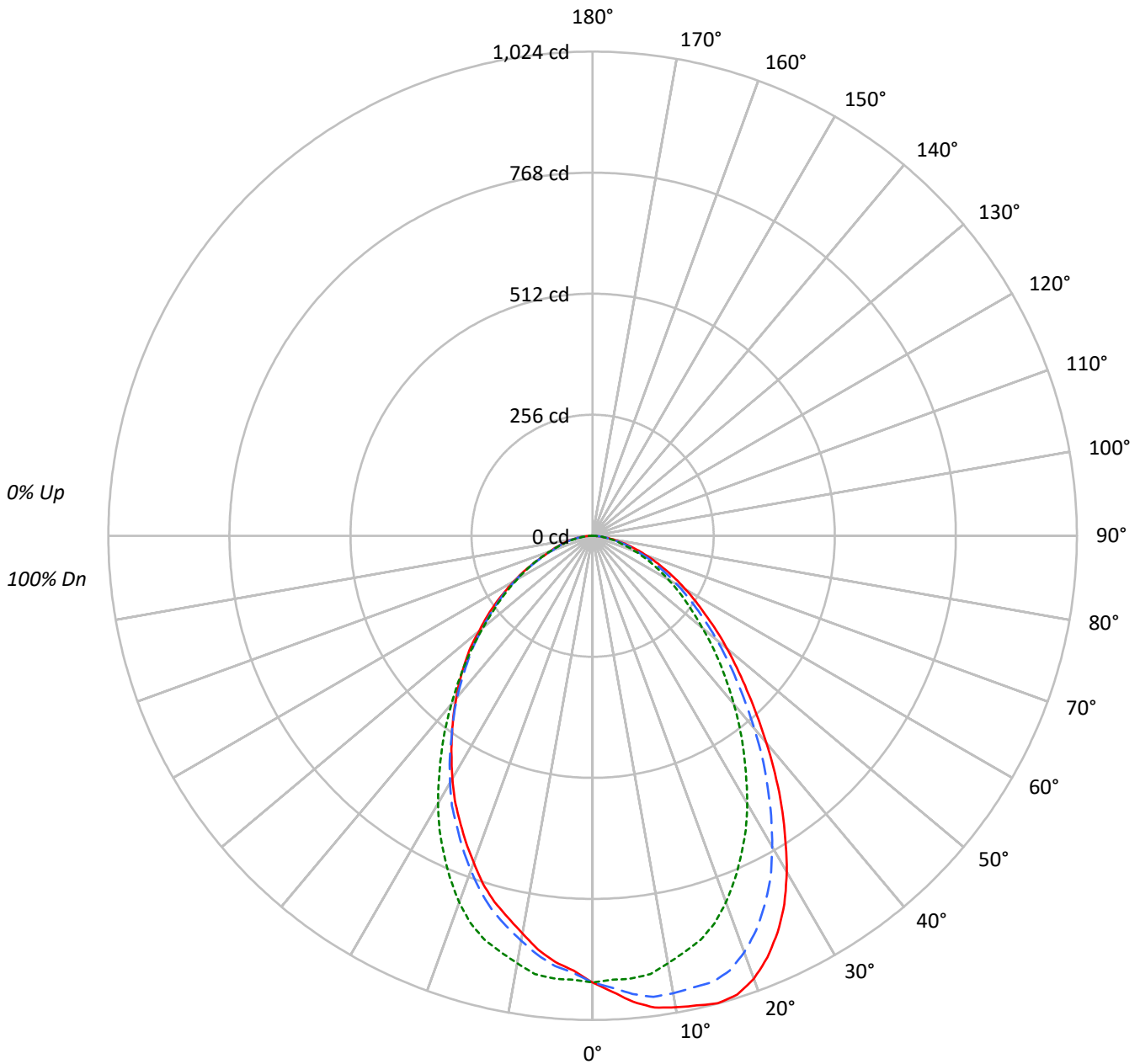
Input Watts (W): 20
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P580092

CATALOG NUMBER: HC420D010-HM40525935-41WWWB

Luminous Intensity Polar Plot





TEST NUMBER: P580092

CATALOG NUMBER: HC420D010-HM40525935-41WWWB

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 | | | | | | | | |
| 1 | 110 | 106 | 103 | 99 | 108 | 104 | 101 | 98 | 100 | 97 | 95 | 96 | 94 | 92 | 92 | 91 | 89 | 87 | | | | | | | | |
| 2 | 102 | 95 | 89 | 84 | 99 | 93 | 87 | 83 | 89 | 85 | 81 | 86 | 82 | 79 | 83 | 80 | 77 | 75 | | | | | | | | |
| 3 | 94 | 85 | 77 | 72 | 92 | 83 | 76 | 71 | 80 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 68 | 66 | | | | | | | | |
| 4 | 87 | 76 | 68 | 62 | 85 | 75 | 68 | 62 | 72 | 66 | 61 | 70 | 65 | 60 | 68 | 63 | 60 | 58 | | | | | | | | |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 60 | 55 | 66 | 59 | 54 | 64 | 58 | 53 | 62 | 57 | 53 | 51 | | | | | | | | |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 54 | 49 | 60 | 53 | 48 | 59 | 53 | 48 | 57 | 52 | 47 | 46 | | | | | | | | |
| 7 | 70 | 58 | 50 | 44 | 68 | 57 | 49 | 44 | 55 | 48 | 43 | 54 | 48 | 43 | 53 | 47 | 43 | 41 | | | | | | | | |
| 8 | 65 | 53 | 45 | 40 | 64 | 52 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 49 | 43 | 39 | 37 | | | | | | | | |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 45 | 40 | 36 | 34 | | | | | | | | |
| 10 | 58 | 45 | 38 | 33 | 57 | 45 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--------|--------|--------|
| 0° | 116537 | 116537 | 116537 |
| 5° | 122529 | 116388 | 112029 |
| 10° | 126839 | 114991 | 106937 |
| 15° | 130710 | 112897 | 102362 |
| 20° | 130855 | 108252 | 96477 |
| 25° | 125944 | 101188 | 90450 |
| 30° | 116933 | 93105 | 84459 |
| 35° | 104817 | 83811 | 78150 |
| 40° | 91972 | 74792 | 72248 |
| 45° | 80398 | 66234 | 66652 |
| 50° | 70981 | 57951 | 60043 |
| 55° | 62600 | 51375 | 53998 |
| 60° | 55950 | 45465 | 47291 |
| 65° | 49558 | 40014 | 40014 |
| 70° | 43313 | 34116 | 34116 |
| 75° | 37030 | 28928 | 32359 |
| 80° | 29336 | 25856 | 29336 |
| 85° | 18823 | 22219 | 27456 |



TEST NUMBER: P580092

CATALOG NUMBER: HC420D010-HM40525935-41WWWB

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 89.5 | 4.9 |
| 10°-20° | 252.1 | 13.8 |
| 20°-30° | 353.1 | 19.3 |
| 30°-40° | 363.8 | 19.9 |
| 40°-50° | 309.8 | 16.9 |
| 50°-60° | 229.5 | 12.5 |
| 60°-70° | 144.0 | 7.9 |
| 70°-80° | 71.6 | 3.9 |
| 80°-90° | 18.8 | 1.0 |
| 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° | 694.7 | 37.9 |
| 0°-40° | 1058.6 | 57.8 |
| 0°-60° | 1597.8 | 87.2 |
| 0°-90° | 1832.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1832.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|------|-----|-----|------|------|------|
| 0° | 945 | 945 | 945 | 945 | 945 | |
| 5° | 990 | 973 | 940 | 913 | 905 | 95 |
| 15° | 1024 | 978 | 884 | 820 | 802 | 288 |
| 25° | 925 | 861 | 744 | 679 | 665 | 423 |
| 35° | 696 | 644 | 557 | 520 | 519 | 434 |
| 45° | 461 | 429 | 380 | 372 | 382 | 358 |
| 55° | 291 | 268 | 239 | 244 | 251 | 263 |
| 65° | 170 | 153 | 137 | 135 | 137 | 169 |
| 75° | 78 | 69 | 61 | 66 | 68 | 83 |
| 85° | 13 | 13 | 16 | 18 | 19 | 17 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P580092

CATALOG NUMBER: HC420D010-HM40525935-41WWWB

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|--------|--------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 944.8 | 944.8 | 944.8 | 944.8 | 944.8 | 944.8 | 944.8 | 944.8 | 944.8 |
| 2.5° | 965.4 | 961.8 | 956.9 | 948.5 | 940.0 | 932.6 | 925.4 | 921.7 | 920.5 |
| 5° | 989.6 | 982.4 | 972.7 | 956.9 | 940.0 | 925.4 | 913.2 | 907.2 | 904.8 |
| 7.5° | 1006.6 | 999.4 | 983.6 | 959.4 | 935.0 | 913.2 | 893.9 | 885.4 | 883.0 |
| 10° | 1012.7 | 1004.2 | 982.4 | 949.6 | 918.1 | 891.4 | 869.5 | 858.6 | 853.8 |
| 12.5° | 1017.5 | 1006.6 | 978.7 | 940.0 | 901.1 | 868.4 | 845.3 | 830.8 | 827.1 |
| 15° | 1023.6 | 1011.4 | 977.5 | 930.2 | 884.1 | 845.3 | 819.9 | 806.5 | 801.6 |
| 17.5° | 1017.5 | 1004.2 | 964.2 | 910.8 | 858.6 | 816.2 | 788.3 | 776.2 | 771.4 |
| 20° | 996.9 | 982.4 | 937.4 | 880.4 | 824.7 | 781.0 | 753.1 | 741.0 | 735.0 |
| 22.5° | 965.4 | 949.6 | 903.5 | 842.9 | 785.9 | 743.5 | 716.8 | 704.6 | 701.0 |
| 25° | 925.4 | 909.6 | 861.1 | 799.2 | 743.5 | 702.2 | 679.1 | 668.2 | 664.6 |
| 27.5° | 878.0 | 862.3 | 814.9 | 754.4 | 701.0 | 662.2 | 644.0 | 633.0 | 630.6 |
| 30° | 821.0 | 805.3 | 759.2 | 703.5 | 653.7 | 617.3 | 602.7 | 594.3 | 593.0 |
| 32.5° | 757.9 | 744.6 | 702.2 | 651.3 | 604.0 | 573.6 | 562.7 | 556.6 | 555.5 |
| 35° | 696.1 | 681.5 | 644.0 | 597.9 | 556.6 | 530.0 | 520.3 | 519.0 | 519.0 |
| 37.5° | 633.0 | 618.6 | 588.2 | 545.7 | 510.5 | 486.3 | 482.7 | 483.9 | 483.9 |
| 40° | 571.2 | 557.9 | 531.2 | 496.1 | 464.5 | 446.3 | 445.2 | 447.6 | 448.7 |
| 42.5° | 513.1 | 502.0 | 477.8 | 447.6 | 420.8 | 406.3 | 407.5 | 412.3 | 416.0 |
| 45° | 460.9 | 451.1 | 429.3 | 402.6 | 379.7 | 368.6 | 372.3 | 378.4 | 382.1 |
| 47.5° | 413.6 | 405.1 | 384.5 | 360.2 | 340.8 | 333.5 | 338.4 | 345.6 | 350.5 |
| 50° | 369.9 | 362.7 | 343.2 | 317.7 | 302.0 | 297.2 | 303.2 | 310.5 | 312.9 |
| 52.5° | 331.1 | 323.8 | 303.2 | 281.4 | 269.2 | 266.8 | 272.9 | 279.0 | 282.6 |
| 55° | 291.1 | 285.0 | 268.1 | 248.7 | 238.9 | 237.7 | 243.7 | 248.7 | 251.1 |
| 57.5° | 258.3 | 252.2 | 236.5 | 219.5 | 211.0 | 209.8 | 215.9 | 219.5 | 220.7 |
| 60° | 226.8 | 220.7 | 206.2 | 190.4 | 184.3 | 184.3 | 188.0 | 190.4 | 191.7 |
| 62.5° | 197.6 | 191.7 | 178.2 | 164.9 | 160.1 | 160.1 | 160.1 | 161.3 | 164.9 |
| 65° | 169.8 | 164.9 | 152.8 | 140.7 | 137.1 | 134.7 | 134.7 | 134.7 | 137.1 |
| 67.5° | 144.3 | 139.5 | 129.7 | 118.8 | 115.2 | 111.6 | 110.3 | 112.8 | 112.8 |
| 70° | 120.1 | 116.4 | 106.7 | 98.2 | 94.6 | 91.0 | 89.7 | 94.6 | 94.6 |
| 72.5° | 98.2 | 94.6 | 88.5 | 80.1 | 76.4 | 75.2 | 77.7 | 80.1 | 81.2 |
| 75° | 77.7 | 74.0 | 69.2 | 64.2 | 60.7 | 61.8 | 65.5 | 66.8 | 67.9 |
| 77.5° | 58.3 | 57.0 | 52.2 | 48.5 | 48.5 | 49.8 | 52.2 | 54.6 | 55.7 |
| 80° | 41.3 | 40.0 | 37.6 | 35.2 | 36.4 | 38.8 | 40.0 | 42.4 | 41.3 |
| 82.5° | 25.5 | 25.5 | 24.2 | 24.2 | 25.5 | 27.9 | 29.1 | 30.3 | 31.5 |
| 85° | 13.3 | 13.3 | 13.3 | 14.6 | 15.7 | 17.0 | 18.2 | 19.4 | 19.4 |
| 87.5° | 3.7 | 4.8 | 4.8 | 6.1 | 7.2 | 7.2 | 8.5 | 8.5 | 8.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Report Generated By 670245859 / DESKTOP-HRDQ47P





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







(END OF REPORT)