

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

Report Number: P123784

Luminaire Tested: **ELG406935TBZ (35° BEAM - 0° TILT)**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P123784
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P13999)
Test Lab: INNOVATION CENTER-P1
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ELG406935TBZ (35° BEAM - 0° TILT)
Description: HALO 4 INCH RECESSED FIXTURE WITH ROUND TUSCAN BRONZE TRIM,
TUSCAN BRONZE GIMBAL, NARROW UPPER REFLECTOR AND CLEAR LENS.
Light Source: (1)SURFACE MOUNT LED, 3500K CCT, 90CRI
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 810.1 lumens
Efficiency: N/A
Efficacy: 62.3 lumens/watt
Spacing Criteria (0/90/45): 0.64 / 0.64 / 0.62
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')
CIE Type: Direct

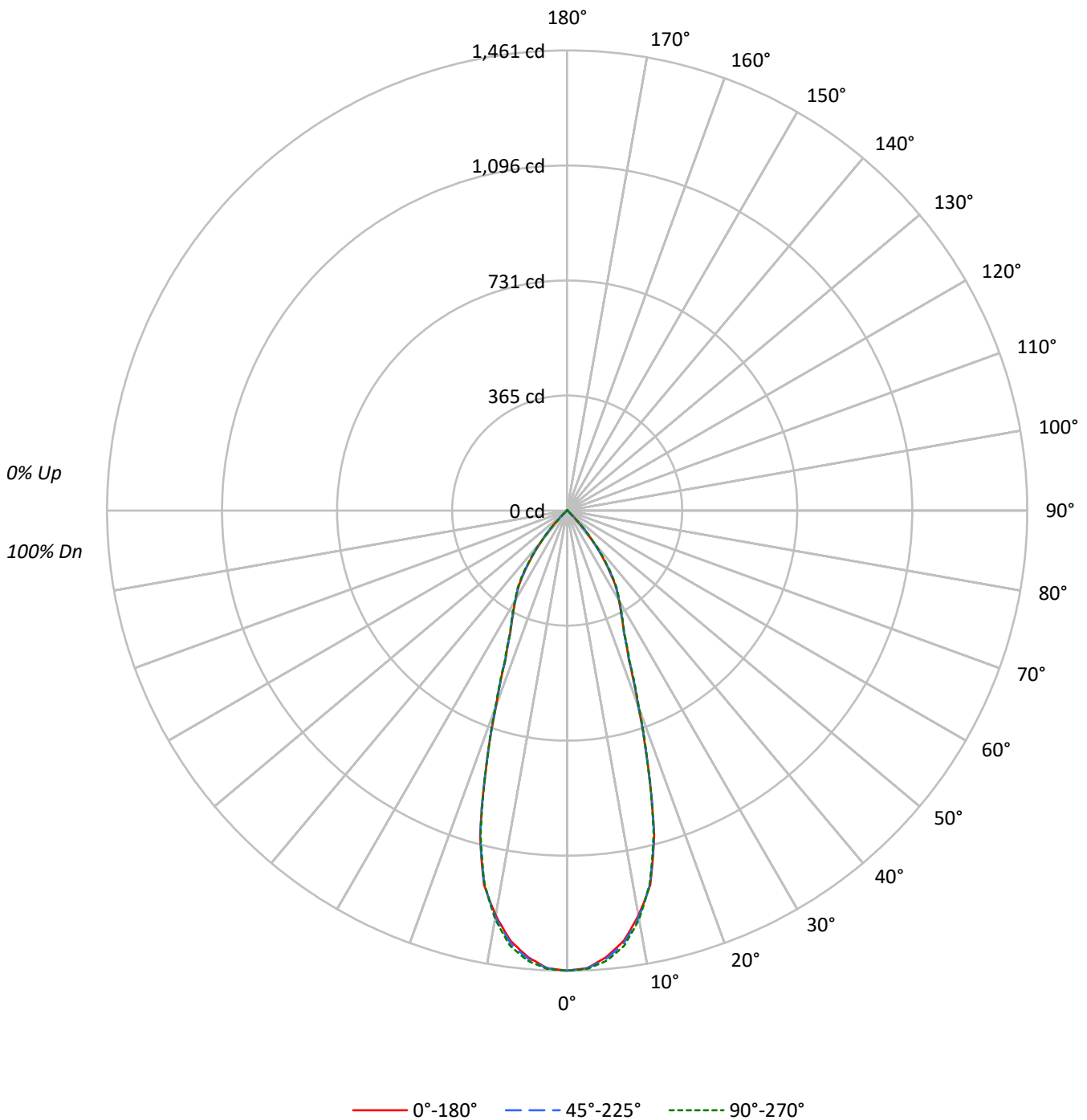
Input Watts (W): 13
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 111 | 109 | 107 | 111 | 109 | 107 | 105 | 105 | 104 | 102 | 101 | 100 | 99 | 98 | 97 | 96 | 94 | | | | 94 |
| 2 | 109 | 104 | 101 | 97 | 107 | 103 | 99 | 96 | 99 | 97 | 94 | 96 | 94 | 92 | 94 | 92 | 90 | 89 | | | | 89 |
| 3 | 104 | 98 | 93 | 90 | 102 | 97 | 92 | 89 | 94 | 91 | 88 | 92 | 89 | 86 | 89 | 87 | 85 | 83 | | | | 83 |
| 4 | 99 | 92 | 87 | 83 | 98 | 91 | 87 | 83 | 89 | 85 | 82 | 87 | 84 | 81 | 85 | 82 | 80 | 79 | | | | 79 |
| 5 | 95 | 87 | 82 | 78 | 93 | 86 | 81 | 78 | 85 | 80 | 77 | 83 | 79 | 76 | 81 | 78 | 76 | 74 | | | | 74 |
| 6 | 91 | 83 | 77 | 73 | 89 | 82 | 77 | 73 | 80 | 76 | 72 | 79 | 75 | 72 | 78 | 74 | 71 | 70 | | | | 70 |
| 7 | 87 | 78 | 73 | 69 | 85 | 78 | 72 | 69 | 76 | 72 | 68 | 75 | 71 | 68 | 74 | 70 | 68 | 66 | | | | 66 |
| 8 | 83 | 74 | 69 | 65 | 82 | 74 | 69 | 65 | 73 | 68 | 65 | 72 | 68 | 64 | 71 | 67 | 64 | 63 | | | | 63 |
| 9 | 80 | 71 | 65 | 62 | 79 | 70 | 65 | 62 | 69 | 65 | 61 | 69 | 64 | 61 | 68 | 64 | 61 | 60 | | | | 60 |
| 10 | 76 | 68 | 62 | 59 | 75 | 67 | 62 | 59 | 66 | 62 | 58 | 66 | 61 | 58 | 65 | 61 | 58 | 57 | | | | 57 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 566020 | 566020 | 566020 |
| 5° | 553479 | 555580 | 558108 |
| 10° | 513566 | 515691 | 517816 |
| 15° | 428328 | 427927 | 425761 |
| 20° | 271586 | 272452 | 274678 |
| 25° | 182781 | 181883 | 182781 |
| 30° | 146852 | 147344 | 147836 |
| 35° | 110315 | 112349 | 115424 |
| 40° | 63888 | 64445 | 65001 |
| 45° | 21865 | 20715 | 20112 |
| 50° | 6511 | 5848 | 5848 |
| 55° | 3648 | 3648 | 2905 |
| 60° | 1705 | 1705 | 1705 |
| 65° | 2017 | 2017 | 2017 |
| 70° | 3626 | 2493 | 2493 |
| 75° | 0 | 0 | 0 |
| 80° | 0 | 0 | 0 |
| 85° | 4891 | 0 | 4891 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 132.8 | 16.4 |
| 10°-20° | 282.6 | 34.9 |
| 20°-30° | 205.2 | 25.3 |
| 30°-40° | 145.2 | 17.9 |
| 40°-50° | 37.8 | 4.7 |
| 50°-60° | 3.8 | 0.5 |
| 60°-70° | 1.7 | 0.2 |
| 70°-80° | 0.7 | 0.1 |
| 80°-90° | 0.3 | 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° | 620.5 | 76.6 |
| 0°-40° | 765.8 | 94.5 |
| 0°-60° | 807.3 | 99.7 |
| 0°-90° | 810.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 810.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1461 | 1461 | 1461 | 1461 | 1461 | |
| 5° | 1423 | 1427 | 1428 | 1433 | 1435 | 132 |
| 15° | 1068 | 1069 | 1067 | 1064 | 1061 | 282 |
| 25° | 428 | 424 | 425 | 426 | 428 | 205 |
| 35° | 233 | 235 | 238 | 242 | 244 | 143 |
| 45° | 40 | 40 | 38 | 39 | 37 | 38 |
| 55° | 5 | 6 | 5 | 5 | 4 | 4 |
| 65° | 2 | 1 | 2 | 1 | 2 | 2 |
| 75° | 0 | 0 | 0 | 0 | 0 | 1 |
| 85° | 1 | 1 | 0 | 0 | 1 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1460.7 | 1460.7 | 1460.7 | 1460.7 | 1460.7 |
| 2.5° | 1454.2 | 1455.3 | 1454.2 | 1455.3 | 1456.4 |
| 5° | 1422.9 | 1427.2 | 1428.3 | 1432.6 | 1434.8 |
| 7.5° | 1377.6 | 1380.8 | 1384.1 | 1391.6 | 1392.7 |
| 10° | 1305.2 | 1307.4 | 1310.6 | 1315.0 | 1316.0 |
| 12.5° | 1217.8 | 1216.7 | 1215.6 | 1213.5 | 1212.4 |
| 15° | 1067.7 | 1068.8 | 1066.7 | 1064.5 | 1061.3 |
| 17.5° | 855.0 | 858.3 | 857.2 | 860.4 | 856.1 |
| 20° | 658.6 | 658.6 | 660.7 | 662.9 | 666.1 |
| 22.5° | 510.7 | 512.8 | 513.9 | 515.0 | 517.1 |
| 25° | 427.5 | 424.3 | 425.4 | 426.4 | 427.5 |
| 27.5° | 372.5 | 372.5 | 374.6 | 375.7 | 377.9 |
| 30° | 328.2 | 327.1 | 329.3 | 330.4 | 330.4 |
| 32.5° | 288.3 | 288.3 | 289.3 | 292.6 | 293.7 |
| 35° | 233.2 | 235.4 | 237.5 | 241.8 | 244.0 |
| 37.5° | 180.3 | 181.4 | 183.5 | 187.9 | 186.8 |
| 40° | 126.3 | 125.2 | 127.4 | 128.5 | 128.5 |
| 42.5° | 81.0 | 79.9 | 79.9 | 79.9 | 79.9 |
| 45° | 39.9 | 39.9 | 37.8 | 38.9 | 36.7 |
| 47.5° | 15.1 | 14.0 | 14.0 | 14.0 | 16.2 |
| 50° | 10.8 | 10.8 | 9.7 | 9.7 | 9.7 |
| 52.5° | 5.4 | 4.3 | 4.3 | 5.4 | 5.4 |
| 55° | 5.4 | 6.5 | 5.4 | 5.4 | 4.3 |
| 57.5° | 1.1 | 2.2 | 0.0 | 0.0 | 0.0 |
| 60° | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| 62.5° | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| 65° | 2.2 | 1.1 | 2.2 | 1.1 | 2.2 |
| 67.5° | 0.0 | 1.1 | 1.1 | 1.1 | 0.0 |
| 70° | 3.2 | 2.2 | 2.2 | 2.2 | 2.2 |
| 72.5° | 1.1 | 0.0 | 1.1 | 1.1 | 1.1 |
| 75° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 1.1 | 1.1 | 0.0 | 0.0 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 1.1 | 1.1 | 0.0 | 1.1 | 0.0 |
| 85° | 1.1 | 1.1 | 0.0 | 0.0 | 1.1 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)