

Scaled data based on original data using
LM-46-04 Photometric Testing of Indoor Luminaires Using High Intensity Discharge or
Incandescent Filament Lamps (Reaffirmed 2012)

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: E395642

Luminaire Tested: **H-2576-P (LOWER HEMISPHERE)**

Issue Date: 3/3/2020



Test Information

Test Method: LM-46-04
Report Number: E395642
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: H-2576-P (LOWER HEMISPHERE)
Description: HALO CASCADE II
Light Source: 100W.A19 1750 LUMENS
Ballast/Driver: -

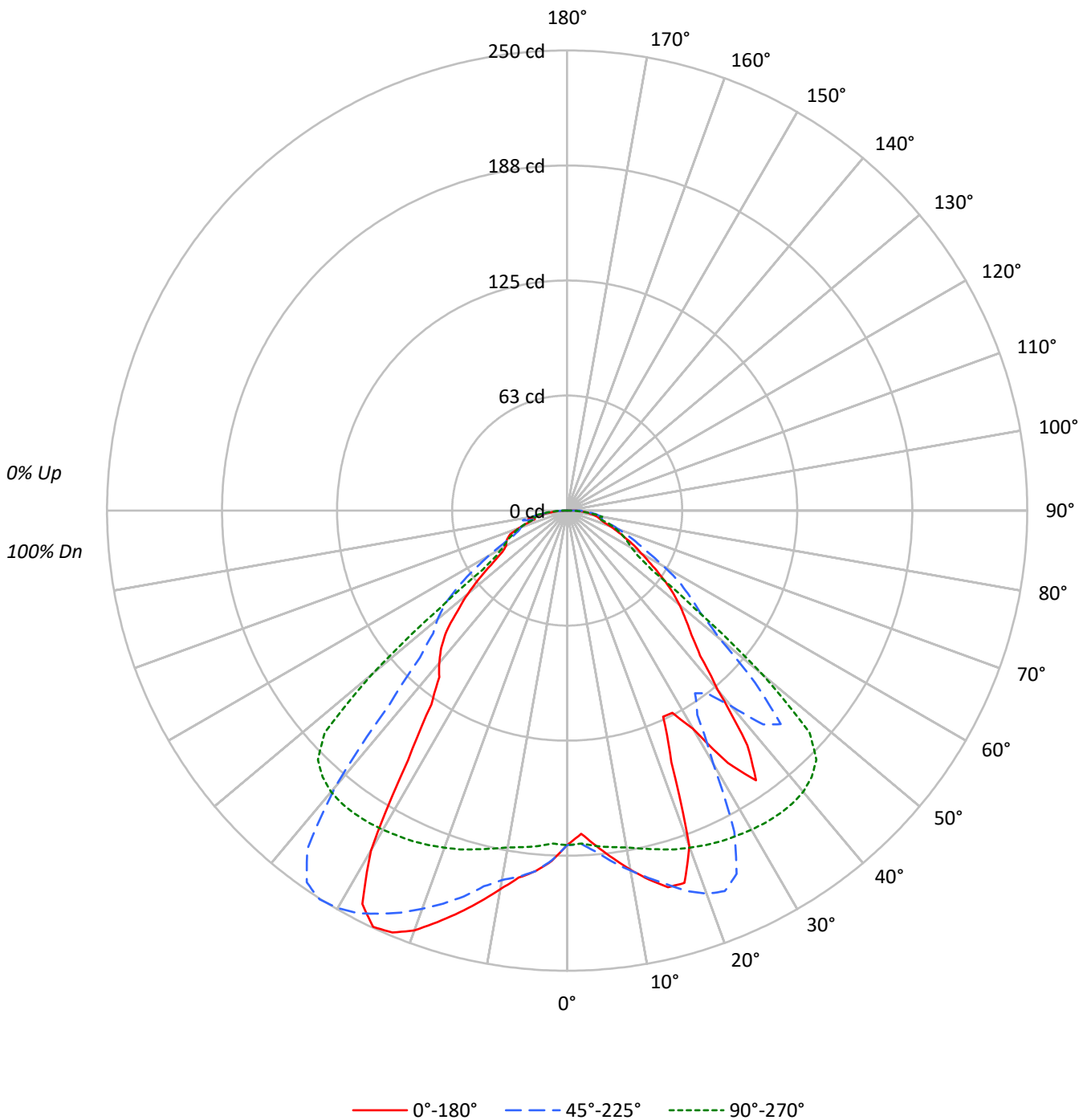
Summary

Lumens per Lamp: 1750 (1 lamp)
Luminaire Lumens: 537.4 lumens
Efficiency: 30.7%
Efficacy: 5.4 lumens/watt
Spacing Criteria (0/90/45): 1.33 / 1.66 / 1.49
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 100
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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 37 | 37 | 37 | 37 | 36 | 36 | 36 | 36 | 34 | 34 | 34 | 33 | 33 | 33 | 31 | 31 | 31 | 31 |
| 1 | 34 | 32 | 31 | 30 | 33 | 32 | 31 | 30 | 30 | 30 | 29 | 29 | 28 | 28 | 28 | 28 | 27 | 26 |
| 2 | 31 | 29 | 27 | 25 | 30 | 28 | 26 | 25 | 27 | 26 | 24 | 26 | 25 | 24 | 25 | 24 | 23 | 23 |
| 3 | 29 | 26 | 23 | 21 | 28 | 25 | 23 | 21 | 24 | 22 | 21 | 23 | 22 | 21 | 23 | 21 | 20 | 20 |
| 4 | 26 | 23 | 20 | 19 | 26 | 23 | 20 | 18 | 22 | 20 | 18 | 21 | 19 | 18 | 20 | 19 | 18 | 17 |
| 5 | 24 | 21 | 18 | 16 | 24 | 20 | 18 | 16 | 20 | 18 | 16 | 19 | 17 | 16 | 19 | 17 | 16 | 15 |
| 6 | 23 | 19 | 16 | 14 | 22 | 18 | 16 | 14 | 18 | 16 | 14 | 17 | 15 | 14 | 17 | 15 | 14 | 13 |
| 7 | 21 | 17 | 14 | 13 | 20 | 17 | 14 | 13 | 16 | 14 | 13 | 16 | 14 | 12 | 15 | 14 | 12 | 12 |
| 8 | 20 | 16 | 13 | 11 | 19 | 15 | 13 | 11 | 15 | 13 | 11 | 15 | 13 | 11 | 14 | 12 | 11 | 11 |
| 9 | 18 | 14 | 12 | 10 | 18 | 14 | 12 | 10 | 14 | 12 | 10 | 13 | 12 | 10 | 13 | 11 | 10 | 10 |
| 10 | 17 | 13 | 11 | 9 | 17 | 13 | 11 | 9 | 13 | 11 | 9 | 12 | 11 | 9 | 12 | 10 | 9 | 9 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|------|------|------|
| 0° | 1956 | 1956 | 1956 |
| 5° | 1977 | 1977 | 2124 |
| 10° | 2165 | 2031 | 2282 |
| 15° | 2360 | 2123 | 2518 |
| 20° | 2222 | 2233 | 2780 |
| 25° | 1467 | 2354 | 2963 |
| 30° | 1700 | 2488 | 2650 |
| 35° | 2351 | 2643 | 1690 |
| 40° | 1790 | 2803 | 1519 |
| 45° | 1452 | 2915 | 1411 |
| 50° | 1335 | 2319 | 1181 |
| 55° | 1173 | 1049 | 916 |
| 60° | 1001 | 872 | 822 |
| 65° | 881 | 871 | 909 |
| 70° | 777 | 869 | 875 |
| 75° | 782 | 769 | 753 |
| 80° | 942 | 1196 | 1029 |
| 85° | 1223 | 1198 | 840 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10° | 18.4 | 3.4 | 1.0 |
| 10°-20° | 59.6 | 11.1 | 3.4 |
| 20°-30° | 96.5 | 18.0 | 5.5 |
| 30°-40° | 116.7 | 21.7 | 6.7 |
| 40°-50° | 109.3 | 20.3 | 6.2 |
| 50°-60° | 65.9 | 12.3 | 3.8 |
| 60°-70° | 37.3 | 6.9 | 2.1 |
| 70°-80° | 22.5 | 4.2 | 1.3 |
| 80°-90° | 11.1 | 2.1 | 0.6 |
| 90°-100° | 0.0 | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 | 0.0 |
| 0°-30° | 174.4 | 32.5 | 10.0 |
| 0°-40° | 291.2 | 54.2 | 16.6 |
| 0°-60° | 466.4 | 86.8 | 26.7 |
| 0°-90° | 537.4 | 100.0 | 30.7 |
| 90°-120° | 0.0 | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 | 0.0 |
| 0°-180° | 537.4 | 100.0 | 30.7 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 182 | 182 | 182 | 182 | 182 | |
| 5° | 183 | 186 | 183 | 197 | 197 | 18 |
| 15° | 212 | 210 | 190 | 217 | 226 | 59 |
| 25° | 124 | 218 | 198 | 242 | 250 | 64 |
| 35° | 179 | 121 | 201 | 247 | 129 | 100 |
| 45° | 95 | 164 | 192 | 113 | 93 | 76 |
| 55° | 62 | 81 | 56 | 73 | 49 | 56 |
| 65° | 35 | 42 | 34 | 32 | 36 | 35 |
| 75° | 19 | 20 | 18 | 19 | 18 | 20 |
| 85° | 10 | 12 | 10 | 9 | 7 | 11 |
| 90° | 5 | 6 | 2 | 2 | 1 | |



TEST NUMBER: E395642

CATALOG NUMBER: H-2576-P (LOWER HEMISPHERE)

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 181.7 | 181.7 | 181.7 | 181.7 | 181.7 | 181.7 | 181.7 | 181.7 | 181.7 |
| 2.5° | 175.7 | 181.2 | 181.4 | 181.1 | 181.1 | 185.4 | 190.2 | 190.8 | 190.5 |
| 5° | 183.0 | 187.8 | 186.4 | 184.0 | 183.0 | 189.7 | 196.6 | 197.7 | 196.6 |
| 7.5° | 190.5 | 195.3 | 192.8 | 187.3 | 184.4 | 193.2 | 200.6 | 201.8 | 201.1 |
| 10° | 198.1 | 202.3 | 198.6 | 191.0 | 185.8 | 196.6 | 203.8 | 208.9 | 208.8 |
| 12.5° | 205.3 | 209.5 | 204.4 | 194.9 | 188.1 | 200.0 | 209.1 | 217.5 | 217.5 |
| 15° | 211.8 | 216.6 | 210.3 | 199.4 | 190.5 | 203.0 | 217.0 | 224.8 | 226.0 |
| 17.5° | 212.1 | 220.2 | 216.7 | 203.4 | 193.0 | 206.2 | 223.9 | 232.6 | 234.4 |
| 20° | 194.0 | 213.3 | 221.5 | 207.4 | 194.9 | 210.0 | 230.2 | 240.3 | 242.7 |
| 22.5° | 147.9 | 184.5 | 223.8 | 210.8 | 196.7 | 214.3 | 236.4 | 246.5 | 248.1 |
| 25° | 123.5 | 142.6 | 217.8 | 213.9 | 198.2 | 218.1 | 241.6 | 251.0 | 249.5 |
| 27.5° | 123.9 | 124.8 | 196.7 | 216.6 | 199.2 | 222.0 | 246.6 | 251.4 | 241.0 |
| 30° | 136.8 | 128.3 | 158.8 | 218.5 | 200.2 | 224.8 | 249.3 | 241.7 | 213.2 |
| 32.5° | 162.5 | 144.2 | 131.5 | 219.7 | 200.9 | 227.3 | 250.4 | 207.4 | 160.8 |
| 35° | 178.9 | 168.3 | 121.2 | 219.1 | 201.1 | 229.5 | 246.6 | 154.3 | 128.6 |
| 37.5° | 160.9 | 181.7 | 124.9 | 215.3 | 200.8 | 231.1 | 231.9 | 122.9 | 114.1 |
| 40° | 127.4 | 163.1 | 138.6 | 206.3 | 199.5 | 231.9 | 195.9 | 110.2 | 108.1 |
| 42.5° | 106.9 | 126.5 | 157.6 | 189.1 | 196.5 | 230.9 | 142.9 | 104.3 | 101.3 |
| 45° | 95.4 | 108.3 | 164.1 | 159.9 | 191.5 | 227.6 | 113.2 | 97.4 | 92.7 |
| 47.5° | 87.2 | 97.2 | 138.5 | 117.2 | 178.6 | 219.9 | 98.7 | 87.1 | 80.7 |
| 50° | 79.7 | 88.3 | 107.7 | 90.7 | 138.5 | 198.1 | 92.0 | 76.4 | 70.5 |
| 52.5° | 71.6 | 80.4 | 91.3 | 78.0 | 87.6 | 147.3 | 83.7 | 65.1 | 59.3 |
| 55° | 62.5 | 72.0 | 81.3 | 77.3 | 55.9 | 87.5 | 72.7 | 54.6 | 48.8 |
| 57.5° | 53.8 | 61.3 | 72.1 | 83.8 | 45.3 | 58.1 | 60.5 | 45.3 | 41.6 |
| 60° | 46.5 | 52.4 | 60.5 | 82.4 | 40.5 | 47.0 | 49.2 | 37.5 | 38.2 |
| 62.5° | 40.8 | 45.1 | 50.0 | 54.9 | 37.2 | 40.8 | 39.3 | 35.7 | 37.4 |
| 65° | 34.6 | 38.5 | 42.5 | 41.2 | 34.2 | 35.1 | 32.3 | 34.1 | 35.7 |
| 67.5° | 29.6 | 32.2 | 36.0 | 35.0 | 31.1 | 30.5 | 28.5 | 32.0 | 33.4 |
| 70° | 24.7 | 26.6 | 29.8 | 30.1 | 27.6 | 25.9 | 26.6 | 27.5 | 27.8 |
| 72.5° | 20.8 | 22.2 | 24.4 | 25.0 | 23.9 | 21.7 | 23.9 | 22.4 | 22.6 |
| 75° | 18.8 | 18.6 | 19.8 | 20.9 | 18.5 | 18.3 | 19.1 | 17.9 | 18.1 |
| 77.5° | 17.3 | 17.1 | 19.3 | 17.5 | 17.7 | 21.9 | 24.7 | 23.1 | 21.6 |
| 80° | 15.2 | 20.0 | 18.7 | 19.3 | 19.3 | 17.6 | 19.0 | 17.9 | 16.6 |
| 82.5° | 12.5 | 16.9 | 16.0 | 15.5 | 14.6 | 12.8 | 13.9 | 12.6 | 11.7 |
| 85° | 9.9 | 13.8 | 12.4 | 11.0 | 9.7 | 8.1 | 8.7 | 7.3 | 6.8 |
| 87.5° | 7.0 | 9.8 | 9.0 | 7.0 | 4.8 | 3.8 | 3.7 | 2.7 | 2.1 |
| 90° | 4.9 | 7.2 | 6.4 | 4.4 | 2.5 | 2.2 | 2.3 | 1.5 | 0.7 |

(END OF REPORT)