

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P256281

Luminaire Tested: **HC4R10D010-HM412830-42RMDC**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P256281
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1805-779-41)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC4R10D010-HM412830-42RMDC
Description: HALO COMMERCIAL 4" ROUND, RETROFIT FRAME, WITH 4" MEDIUM DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 933.2 lumens
Efficiency: N/A
Efficacy: 93.3 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.15 / 1.03
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

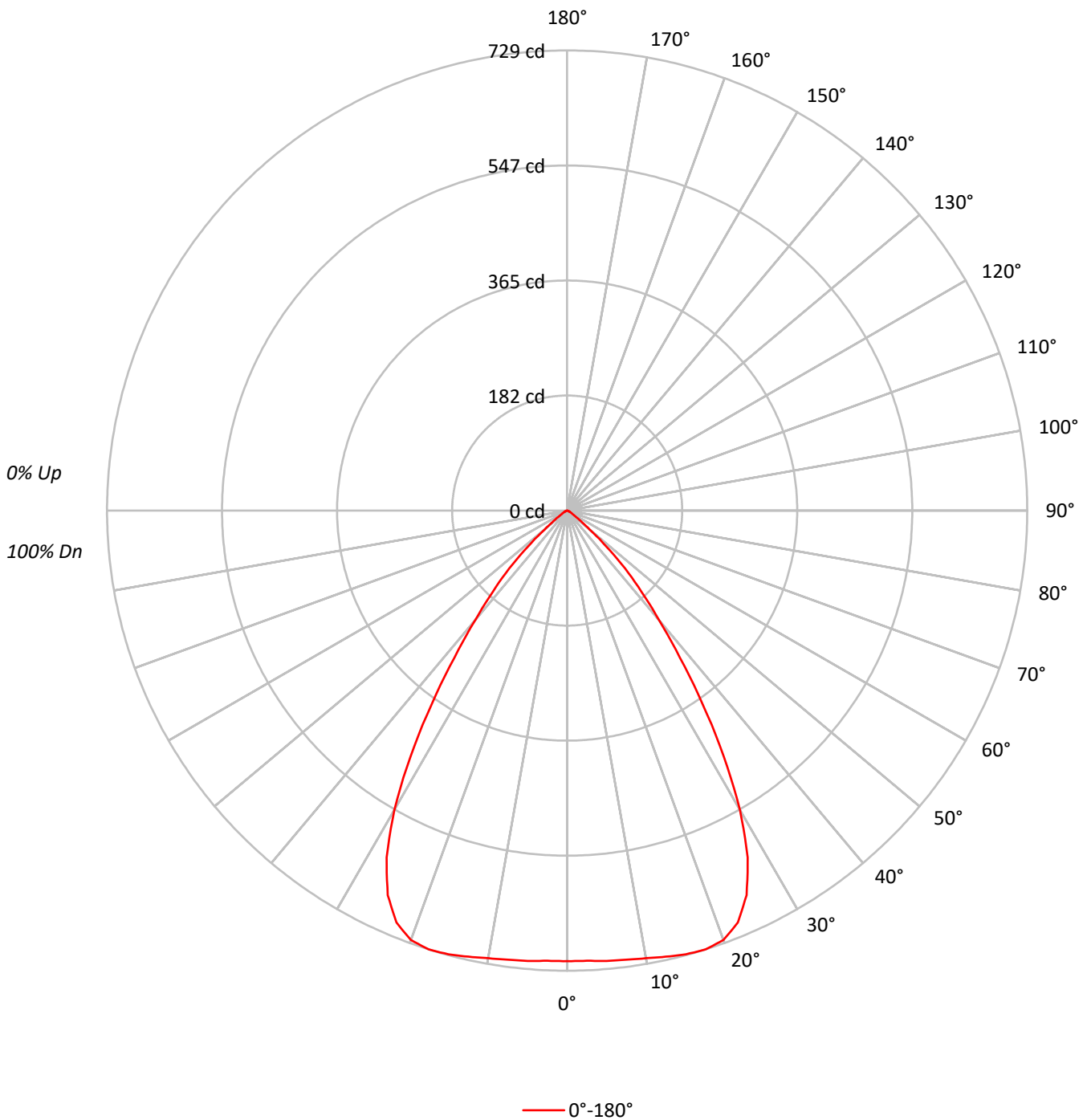
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | | 106 | 106 | 106 | | 102 | 102 | 102 | 100 |
| 1 | 113 | 110 | 108 | 105 | 111 | 108 | 106 | 103 | 104 | 102 | 100 | | 100 | 99 | 97 | | 97 | 96 | 94 | 93 |
| 2 | 107 | 102 | 97 | 94 | 105 | 100 | 96 | 93 | 97 | 94 | 91 | | 94 | 91 | 89 | | 91 | 89 | 87 | 85 |
| 3 | 101 | 94 | 89 | 84 | 99 | 93 | 88 | 84 | 90 | 86 | 82 | | 88 | 84 | 81 | | 85 | 82 | 80 | 78 |
| 4 | 95 | 87 | 81 | 77 | 93 | 86 | 80 | 76 | 84 | 79 | 75 | | 82 | 78 | 74 | | 80 | 76 | 74 | 72 |
| 5 | 90 | 81 | 75 | 70 | 88 | 80 | 74 | 70 | 78 | 73 | 69 | | 76 | 72 | 68 | | 75 | 71 | 68 | 66 |
| 6 | 85 | 75 | 69 | 64 | 83 | 74 | 68 | 64 | 73 | 67 | 63 | | 71 | 67 | 63 | | 70 | 66 | 63 | 61 |
| 7 | 80 | 70 | 64 | 59 | 79 | 69 | 63 | 59 | 68 | 63 | 59 | | 67 | 62 | 58 | | 66 | 61 | 58 | 56 |
| 8 | 76 | 66 | 59 | 55 | 75 | 65 | 59 | 55 | 64 | 58 | 54 | | 63 | 58 | 54 | | 62 | 57 | 54 | 52 |
| 9 | 72 | 61 | 55 | 51 | 71 | 61 | 55 | 51 | 60 | 54 | 50 | | 59 | 54 | 50 | | 58 | 53 | 50 | 49 |
| 10 | 68 | 58 | 51 | 47 | 67 | 57 | 51 | 47 | 56 | 51 | 47 | | 55 | 50 | 47 | | 55 | 50 | 47 | 45 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|-------|
| | 0° |
| 0° | 69566 |
| 5° | 70076 |
| 10° | 71262 |
| 15° | 73422 |
| 20° | 75078 |
| 25° | 72294 |
| 30° | 61624 |
| 35° | 44485 |
| 40° | 28829 |
| 45° | 17876 |
| 50° | 7065 |
| 55° | 2566 |
| 60° | 1481 |
| 65° | 876 |
| 70° | 712 |
| 75° | 490 |
| 80° | 0 |
| 85° | 0 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 68.5 | 7.3 |
| 10°-20° | 205.8 | 22.1 |
| 20°-30° | 302.4 | 32.4 |
| 30°-40° | 234.1 | 25.1 |
| 40°-50° | 99.4 | 10.6 |
| 50°-60° | 17.3 | 1.9 |
| 60°-70° | 4.4 | 0.5 |
| 70°-80° | 1.4 | 0.1 |
| 80°-90° | 0.0 | 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° | 576.6 | 61.8 |
| 0°-40° | 810.8 | 86.9 |
| 0°-60° | 927.5 | 99.4 |
| 0°-90° | 933.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 933.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 714 | |
| 5° | 716 | 68 |
| 15° | 728 | 206 |
| 25° | 672 | 302 |
| 35° | 374 | 234 |
| 45° | 130 | 99 |
| 55° | 15 | 17 |
| 65° | 4 | 4 |
| 75° | 1 | 1 |
| 85° | 0 | 0 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|-------|
| 0° | 713.8 |
| 2.5° | 713.8 |
| 5° | 716.3 |
| 7.5° | 717.6 |
| 10° | 720.1 |
| 12.5° | 723.9 |
| 15° | 727.7 |
| 17.5° | 728.9 |
| 20° | 723.9 |
| 22.5° | 706.3 |
| 25° | 672.3 |
| 27.5° | 619.4 |
| 30° | 547.6 |
| 32.5° | 462.0 |
| 35° | 373.9 |
| 37.5° | 293.3 |
| 40° | 226.6 |
| 42.5° | 173.7 |
| 45° | 129.7 |
| 47.5° | 83.1 |
| 50° | 46.6 |
| 52.5° | 26.4 |
| 55° | 15.1 |
| 57.5° | 10.1 |
| 60° | 7.6 |
| 62.5° | 5.0 |
| 65° | 3.8 |
| 67.5° | 3.8 |
| 70° | 2.5 |
| 72.5° | 1.3 |
| 75° | 1.3 |
| 77.5° | 1.3 |
| 80° | 0.0 |
| 82.5° | 0.0 |
| 85° | 0.0 |
| 87.5° | 0.0 |
| 90° | 0.0 |

(END OF REPORT)