

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: P345237

Luminaire Tested: **PR4FS24D010 PR4M24MD9FSMMS 2000Lm4000K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P345237
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1908-453-2)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PR4FS24D010 PR4M24MD9FSMMS 2000Lm4000K
Description: PR4 MEDIUM LENS WITH, MATTE METALLIC SILVER FINISH
Light Source: ARRAY OF HIGH LUMEN LEDs 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1634.4 lumens
Efficiency: N/A
Efficacy: 74.3 lumens/watt
Spacing Criteria (0/90/45): 1.02 / 1.02 / 1.02
Luminous Opening: Circular (Dia: 0.4' x H: 0')
CIE Type: Direct

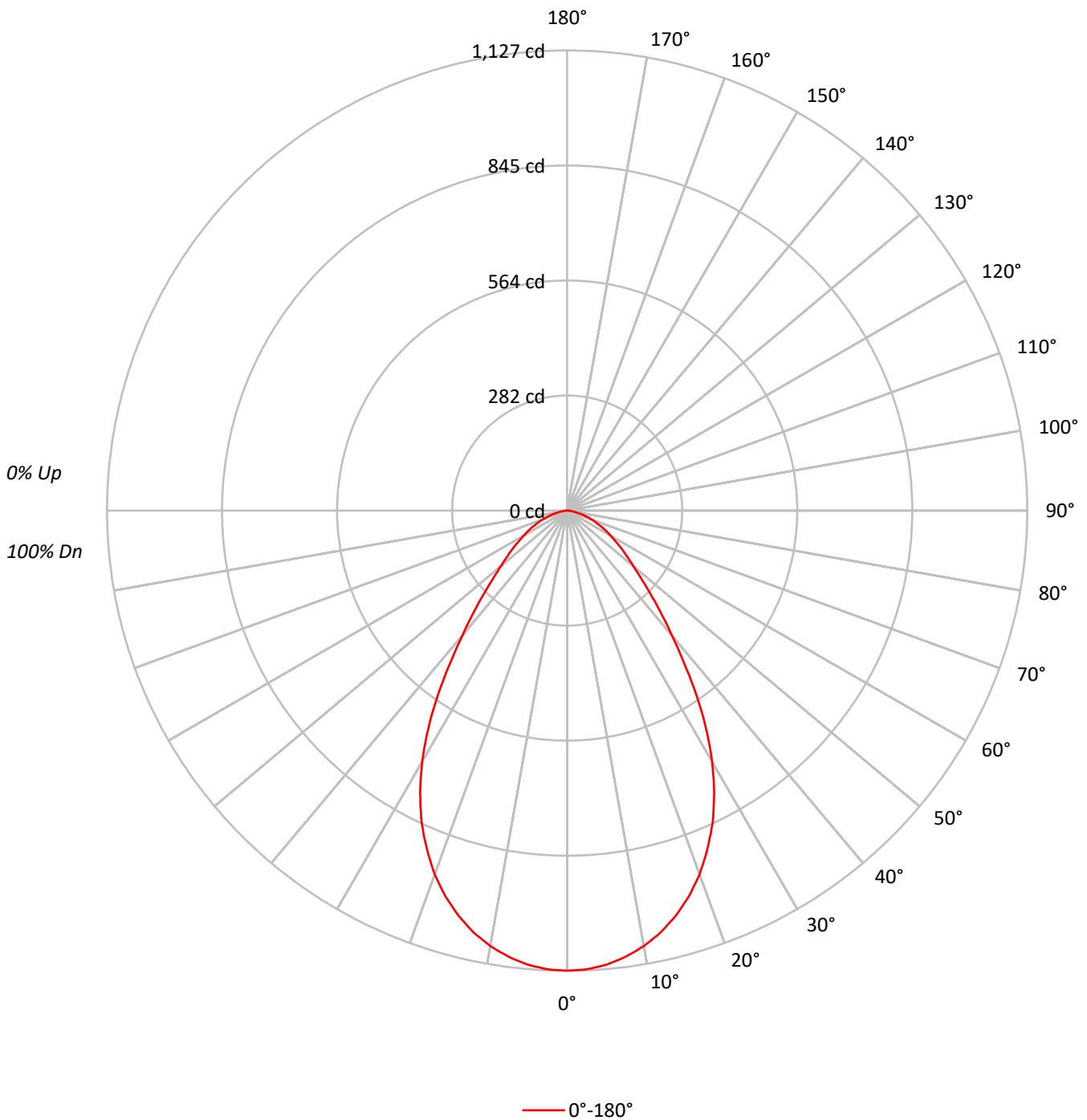
Input Watts (W): 22
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 111 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 101 | 99 | 97 | | 98 | 96 | 94 | | 94 | 93 | 91 | 89 |
| 2 | 104 | 97 | 92 | 88 | 101 | 96 | 91 | 87 | 92 | 88 | 85 | | 89 | 86 | 83 | | 86 | 83 | 81 | 79 |
| 3 | 97 | 88 | 82 | 77 | 94 | 87 | 81 | 76 | 84 | 79 | 75 | | 81 | 77 | 73 | | 79 | 75 | 72 | 70 |
| 4 | 90 | 80 | 73 | 68 | 88 | 79 | 73 | 67 | 77 | 71 | 67 | | 75 | 70 | 66 | | 73 | 68 | 65 | 63 |
| 5 | 84 | 74 | 66 | 61 | 82 | 73 | 66 | 60 | 71 | 65 | 60 | | 69 | 63 | 59 | | 67 | 62 | 59 | 57 |
| 6 | 79 | 68 | 60 | 55 | 77 | 67 | 60 | 55 | 65 | 59 | 54 | | 64 | 58 | 54 | | 62 | 57 | 53 | 52 |
| 7 | 74 | 63 | 55 | 50 | 72 | 62 | 55 | 50 | 60 | 54 | 49 | | 59 | 53 | 49 | | 58 | 53 | 49 | 47 |
| 8 | 70 | 58 | 51 | 46 | 68 | 57 | 50 | 46 | 56 | 50 | 45 | | 55 | 49 | 45 | | 54 | 49 | 45 | 43 |
| 9 | 66 | 54 | 47 | 42 | 64 | 53 | 47 | 42 | 52 | 46 | 42 | | 51 | 46 | 42 | | 51 | 45 | 42 | 40 |
| 10 | 62 | 50 | 44 | 39 | 61 | 50 | 43 | 39 | 49 | 43 | 39 | | 48 | 43 | 39 | | 47 | 42 | 39 | 37 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|-------|
| | 0° |
| 0° | 98552 |
| 5° | 97989 |
| 10° | 96173 |
| 15° | 93009 |
| 20° | 88243 |
| 25° | 81369 |
| 30° | 71751 |
| 35° | 58954 |
| 40° | 45571 |
| 45° | 35601 |
| 50° | 28821 |
| 55° | 24796 |
| 60° | 21517 |
| 65° | 19041 |
| 70° | 16419 |
| 75° | 13011 |
| 80° | 9168 |
| 85° | 5319 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 105.5 | 6.5 |
| 10°-20° | 288.0 | 17.6 |
| 20°-30° | 384.4 | 23.5 |
| 30°-40° | 343.2 | 21.0 |
| 40°-50° | 226.0 | 13.8 |
| 50°-60° | 146.4 | 9.0 |
| 60°-70° | 91.3 | 5.6 |
| 70°-80° | 41.8 | 2.6 |
| 80°-90° | 7.7 | 0.5 |
| 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° | 777.9 | 47.6 |
| 0°-40° | 1121.1 | 68.6 |
| 0°-60° | 1493.5 | 91.4 |
| 0°-90° | 1634.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1634.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 1127 | |
| 5° | 1116 | 105 |
| 15° | 1027 | 288 |
| 25° | 843 | 384 |
| 35° | 552 | 343 |
| 45° | 288 | 226 |
| 55° | 163 | 146 |
| 65° | 92 | 91 |
| 75° | 38 | 42 |
| 85° | 5 | 8 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 1126.7 |
| 2.5° | 1124.5 |
| 5° | 1116.0 |
| 7.5° | 1102.0 |
| 10° | 1082.8 |
| 12.5° | 1058.2 |
| 15° | 1027.1 |
| 17.5° | 990.8 |
| 20° | 948.0 |
| 22.5° | 897.7 |
| 25° | 843.1 |
| 27.5° | 780.0 |
| 30° | 710.4 |
| 32.5° | 633.4 |
| 35° | 552.1 |
| 37.5° | 469.7 |
| 40° | 399.1 |
| 42.5° | 339.2 |
| 45° | 287.8 |
| 47.5° | 245.0 |
| 50° | 211.8 |
| 52.5° | 185.1 |
| 55° | 162.6 |
| 57.5° | 141.2 |
| 60° | 123.0 |
| 62.5° | 107.0 |
| 65° | 92.0 |
| 67.5° | 77.0 |
| 70° | 64.2 |
| 72.5° | 51.4 |
| 75° | 38.5 |
| 77.5° | 27.8 |
| 80° | 18.2 |
| 82.5° | 10.7 |
| 85° | 5.3 |
| 87.5° | 3.2 |
| 90° | 0.0 |

(END OF REPORT)