

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: P345233

Luminaire Tested: **PR4FS24D010 PR4M24MD8FSMMS 2000Lm3500K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P345233
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 PR4M24MD8FSMMS 2000Lm3500K
Description: PR4 MEDIUM LENS WITH, MATTE METALLIC SILVER FINISH
Light Source: ARRAY OF HIGH LUMEN LEDs 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2002.6 lumens
Efficiency: N/A
Efficacy: 98.2 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

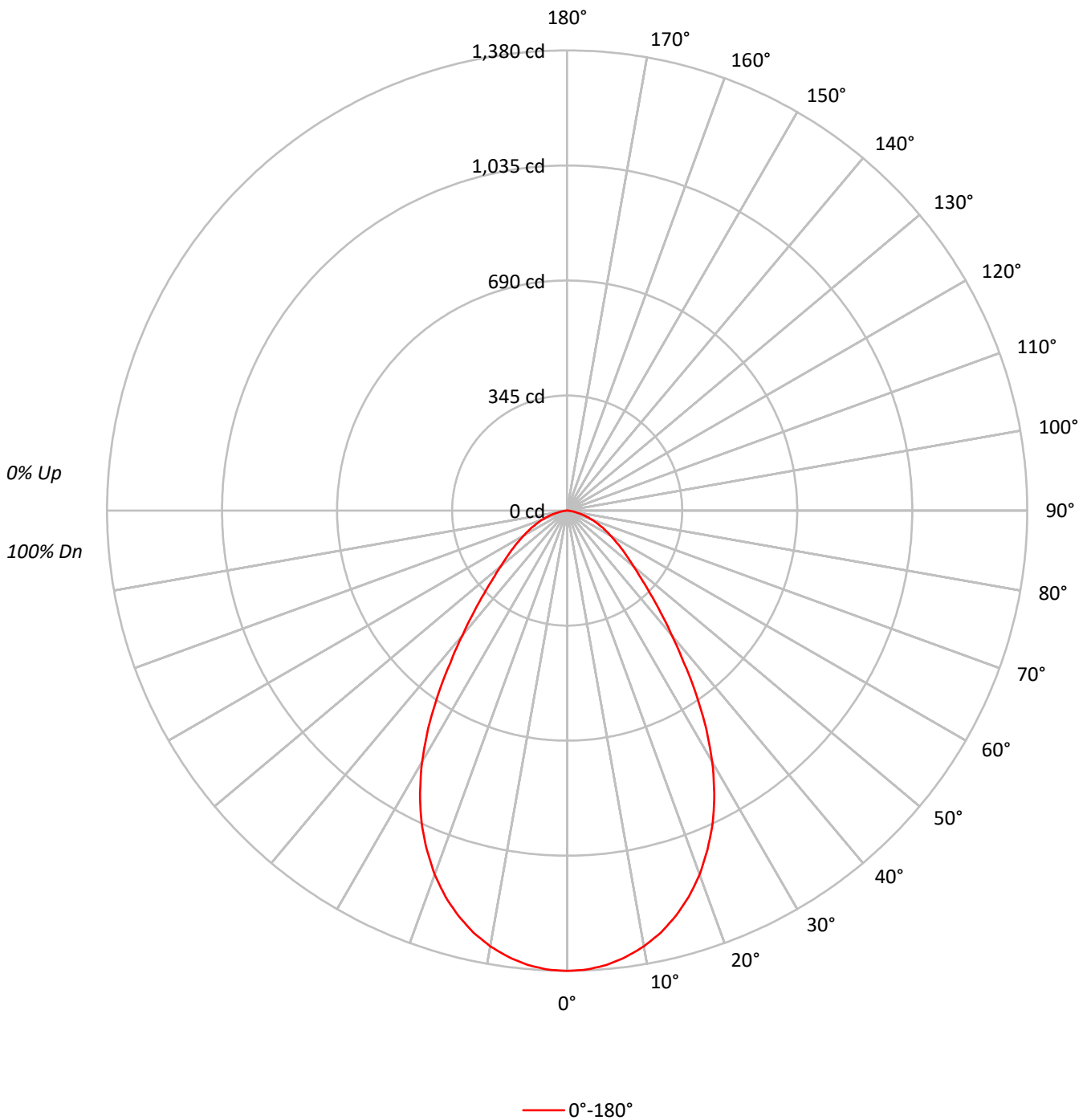
Input Watts (W): 20.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 120743 |
| 5° | 120054 |
| 10° | 117827 |
| 15° | 113964 |
| 20° | 108116 |
| 25° | 99697 |
| 30° | 87911 |
| 35° | 72226 |
| 40° | 55836 |
| 45° | 43617 |
| 50° | 35326 |
| 55° | 30393 |
| 60° | 26381 |
| 65° | 23326 |
| 70° | 20127 |
| 75° | 15952 |
| 80° | 11233 |
| 85° | 6624 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 129.2 | 6.5 |
| 10°-20° | 352.9 | 17.6 |
| 20°-30° | 471.0 | 23.5 |
| 30°-40° | 420.5 | 21.0 |
| 40°-50° | 276.9 | 13.8 |
| 50°-60° | 179.5 | 9.0 |
| 60°-70° | 111.9 | 5.6 |
| 70°-80° | 51.3 | 2.6 |
| 80°-90° | 9.5 | 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° | 953.1 | 47.6 |
| 0°-40° | 1373.6 | 68.6 |
| 0°-60° | 1830.0 | 91.4 |
| 0°-90° | 2002.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2002.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 1380 | |
| 5° | 1367 | 129 |
| 15° | 1258 | 353 |
| 25° | 1033 | 471 |
| 35° | 676 | 420 |
| 45° | 353 | 277 |
| 55° | 199 | 179 |
| 65° | 113 | 112 |
| 75° | 47 | 51 |
| 85° | 7 | 9 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|--------|
| 0° | 1380.4 |
| 2.5° | 1377.8 |
| 5° | 1367.3 |
| 7.5° | 1350.2 |
| 10° | 1326.6 |
| 12.5° | 1296.5 |
| 15° | 1258.5 |
| 17.5° | 1213.9 |
| 20° | 1161.5 |
| 22.5° | 1099.9 |
| 25° | 1033.0 |
| 27.5° | 955.7 |
| 30° | 870.4 |
| 32.5° | 776.1 |
| 35° | 676.4 |
| 37.5° | 575.5 |
| 40° | 489.0 |
| 42.5° | 415.6 |
| 45° | 352.6 |
| 47.5° | 300.2 |
| 50° | 259.6 |
| 52.5° | 226.8 |
| 55° | 199.3 |
| 57.5° | 173.0 |
| 60° | 150.8 |
| 62.5° | 131.1 |
| 65° | 112.7 |
| 67.5° | 94.4 |
| 70° | 78.7 |
| 72.5° | 62.9 |
| 75° | 47.2 |
| 77.5° | 34.1 |
| 80° | 22.3 |
| 82.5° | 13.1 |
| 85° | 6.6 |
| 87.5° | 3.9 |
| 90° | 0.0 |

(END OF REPORT)