

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: P345182

Luminaire Tested: **PR4FS12D010 PR4M12MD9FSMW 1000Lm3500K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P345182
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1908-453-1)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PR4FS12D010 PR4M12MD9FSMW 1000Lm3500K
Description: PR4 MEDIUM LENS WITH, MATTE WHITE FINISH
Light Source: ARRAY OF HIGH LUMEN LEDs 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 835.8 lumens
Efficiency: N/A
Efficacy: 82.8 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.01 / 1.02
Luminous Opening: Circular (Dia: 0.4' x H: 0')
CIE Type: Direct

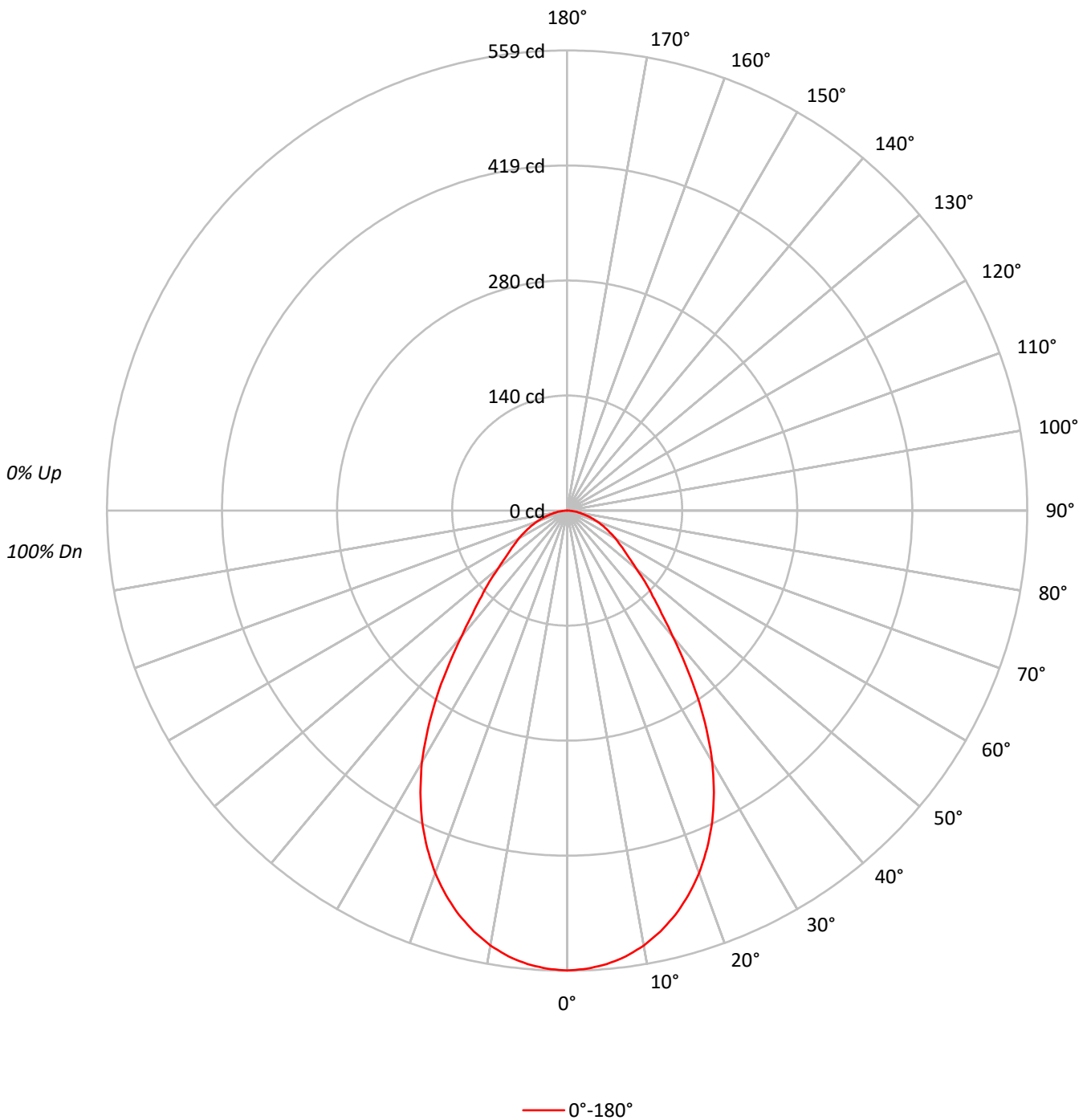
Input Watts (W): 10.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 94 | 92 | 90 | 88 |
| 2 | 103 | 96 | 91 | 86 | 101 | 95 | 90 | 85 | 91 | 87 | 83 | 88 | 85 | 82 | 85 | 82 | 80 | 78 |
| 3 | 96 | 87 | 81 | 75 | 94 | 86 | 80 | 75 | 83 | 78 | 73 | 80 | 76 | 72 | 78 | 74 | 71 | 69 |
| 4 | 89 | 79 | 72 | 66 | 87 | 78 | 71 | 66 | 76 | 70 | 65 | 74 | 68 | 64 | 72 | 67 | 64 | 62 |
| 5 | 83 | 73 | 65 | 59 | 81 | 72 | 64 | 59 | 70 | 63 | 59 | 68 | 62 | 58 | 66 | 61 | 57 | 56 |
| 6 | 78 | 67 | 59 | 54 | 76 | 66 | 59 | 53 | 64 | 58 | 53 | 63 | 57 | 53 | 61 | 56 | 52 | 50 |
| 7 | 73 | 62 | 54 | 49 | 72 | 61 | 54 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 57 | 52 | 48 | 46 |
| 8 | 69 | 57 | 50 | 45 | 67 | 56 | 49 | 44 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 42 |
| 9 | 65 | 53 | 46 | 41 | 64 | 53 | 46 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 50 | 44 | 40 | 39 |
| 10 | 61 | 50 | 43 | 38 | 60 | 49 | 42 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 46 | 41 | 37 | 36 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|-------|
| | 0° |
| 0° | 48860 |
| 5° | 48555 |
| 10° | 47651 |
| 15° | 46029 |
| 20° | 43637 |
| 25° | 40236 |
| 30° | 35623 |
| 35° | 29493 |
| 40° | 22745 |
| 45° | 18159 |
| 50° | 14887 |
| 55° | 12917 |
| 60° | 11861 |
| 65° | 10845 |
| 70° | 9974 |
| 75° | 8685 |
| 80° | 7757 |
| 85° | 6222 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 52.3 | 6.3 |
| 10°-20° | 142.5 | 17.0 |
| 20°-30° | 190.3 | 22.8 |
| 30°-40° | 171.4 | 20.5 |
| 40°-50° | 115.1 | 13.8 |
| 50°-60° | 76.9 | 9.2 |
| 60°-70° | 52.1 | 6.2 |
| 70°-80° | 27.7 | 3.3 |
| 80°-90° | 7.6 | 0.9 |
| 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° | 385.0 | 46.1 |
| 0°-40° | 556.4 | 66.6 |
| 0°-60° | 748.4 | 89.5 |
| 0°-90° | 835.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 835.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 559 | |
| 5° | 553 | 52 |
| 15° | 508 | 142 |
| 25° | 417 | 190 |
| 35° | 276 | 171 |
| 45° | 147 | 115 |
| 55° | 85 | 77 |
| 65° | 52 | 52 |
| 75° | 26 | 28 |
| 85° | 6 | 8 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|-------|
| 0° | 558.6 |
| 2.5° | 557.1 |
| 5° | 553.0 |
| 7.5° | 546.3 |
| 10° | 536.5 |
| 12.5° | 523.7 |
| 15° | 508.3 |
| 17.5° | 489.8 |
| 20° | 468.8 |
| 22.5° | 444.1 |
| 25° | 416.9 |
| 27.5° | 386.1 |
| 30° | 352.7 |
| 32.5° | 315.2 |
| 35° | 276.2 |
| 37.5° | 236.2 |
| 40° | 199.2 |
| 42.5° | 169.9 |
| 45° | 146.8 |
| 47.5° | 128.4 |
| 50° | 109.4 |
| 52.5° | 95.5 |
| 55° | 84.7 |
| 57.5° | 75.5 |
| 60° | 67.8 |
| 62.5° | 59.6 |
| 65° | 52.4 |
| 67.5° | 45.2 |
| 70° | 39.0 |
| 72.5° | 32.3 |
| 75° | 25.7 |
| 77.5° | 20.0 |
| 80° | 15.4 |
| 82.5° | 10.8 |
| 85° | 6.2 |
| 87.5° | 3.1 |
| 90° | 0.0 |

(END OF REPORT)