

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: P345181

Luminaire Tested: **PR4FS12D010 PR4M12MD9FSMW 1000Lm3000K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P345181
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 1000Lm3000K
Description: PR4 MEDIUM LENS WITH, MATTE WHITE FINISH
Light Source: ARRAY OF HIGH LUMEN LEDs 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 781.4 lumens
Efficiency: N/A
Efficacy: 75.1 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

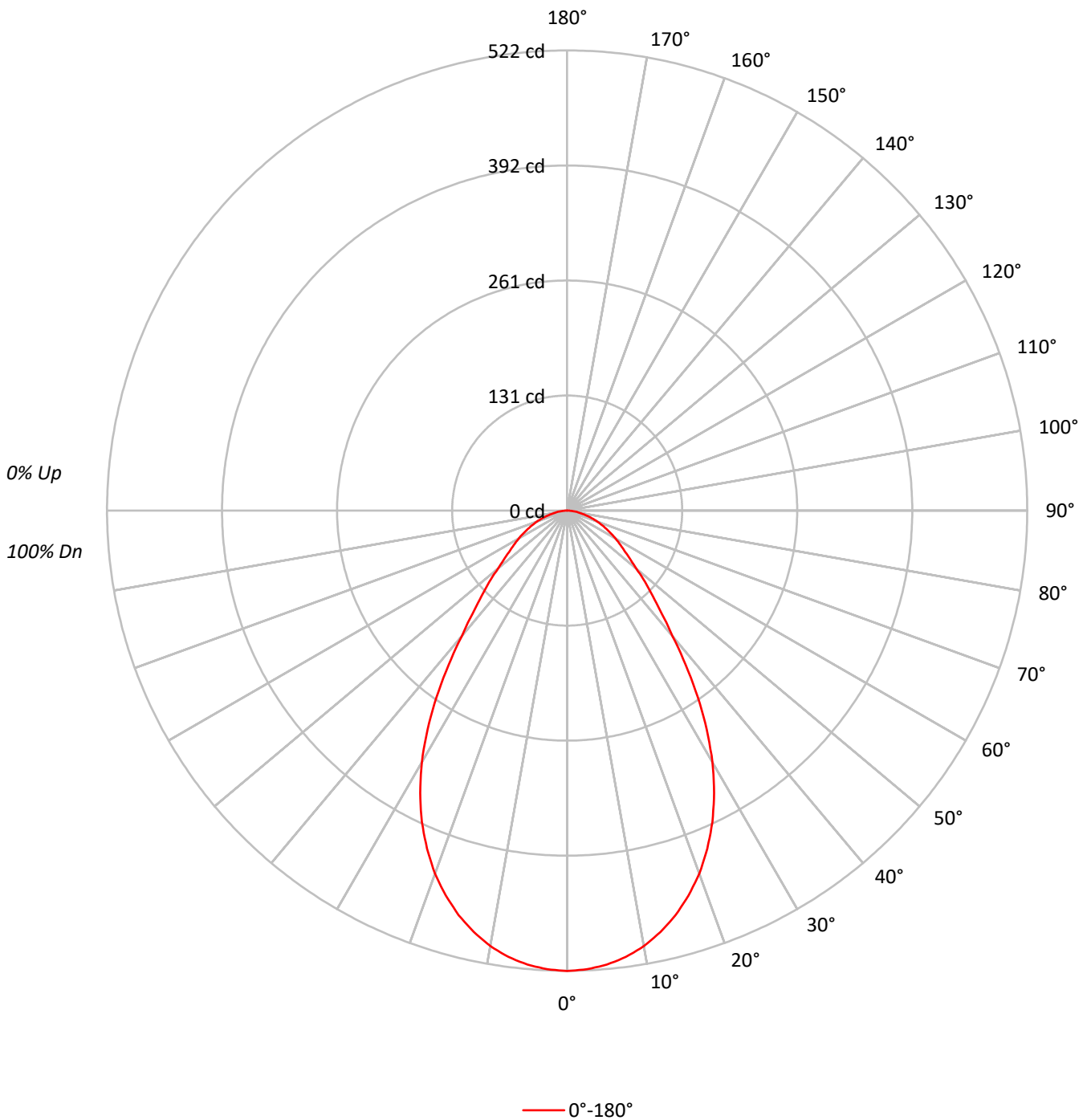
Input Watts (W): 10.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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 | | | | | 100 | | | |
| 1 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 94 | 92 | 90 | 88 | | | | | 88 | | | |
| 2 | 103 | 96 | 91 | 86 | 101 | 95 | 90 | 85 | 91 | 87 | 83 | 88 | 85 | 82 | 85 | 82 | 80 | 78 | | | | | 78 | | | |
| 3 | 96 | 87 | 81 | 75 | 94 | 86 | 80 | 75 | 83 | 78 | 73 | 80 | 76 | 72 | 78 | 74 | 71 | 69 | | | | | 69 | | | |
| 4 | 89 | 79 | 72 | 66 | 87 | 78 | 71 | 66 | 76 | 70 | 65 | 74 | 68 | 64 | 72 | 67 | 64 | 62 | | | | | 62 | | | |
| 5 | 83 | 73 | 65 | 59 | 81 | 72 | 64 | 59 | 70 | 63 | 59 | 68 | 62 | 58 | 66 | 61 | 57 | 56 | | | | | 56 | | | |
| 6 | 78 | 67 | 59 | 54 | 76 | 66 | 59 | 53 | 64 | 58 | 53 | 63 | 57 | 53 | 61 | 56 | 52 | 50 | | | | | 50 | | | |
| 7 | 73 | 62 | 54 | 49 | 72 | 61 | 54 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 57 | 52 | 48 | 46 | | | | | 46 | | | |
| 8 | 69 | 57 | 50 | 45 | 67 | 56 | 49 | 44 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 42 | | | | | 42 | | | |
| 9 | 65 | 53 | 46 | 41 | 64 | 53 | 46 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 50 | 44 | 40 | 39 | | | | | 39 | | | |
| 10 | 61 | 50 | 43 | 38 | 60 | 49 | 42 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 46 | 41 | 37 | 36 | | | | | 36 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|-------|
| | 0° |
| 0° | 45685 |
| 5° | 45394 |
| 10° | 44552 |
| 15° | 43032 |
| 20° | 40798 |
| 25° | 37620 |
| 30° | 33310 |
| 35° | 27581 |
| 40° | 21272 |
| 45° | 16984 |
| 50° | 13907 |
| 55° | 12078 |
| 60° | 11091 |
| 65° | 10142 |
| 70° | 9335 |
| 75° | 8111 |
| 80° | 7254 |
| 85° | 5821 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 48.9 | 6.3 |
| 10°-20° | 133.2 | 17.0 |
| 20°-30° | 177.9 | 22.8 |
| 30°-40° | 160.3 | 20.5 |
| 40°-50° | 107.6 | 13.8 |
| 50°-60° | 71.9 | 9.2 |
| 60°-70° | 48.7 | 6.2 |
| 70°-80° | 25.9 | 3.3 |
| 80°-90° | 7.1 | 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° | 360.0 | 46.1 |
| 0°-40° | 520.2 | 66.6 |
| 0°-60° | 699.8 | 89.5 |
| 0°-90° | 781.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 781.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|-----|------|
| 0° | 522 | |
| 5° | 517 | 49 |
| 15° | 475 | 133 |
| 25° | 390 | 178 |
| 35° | 258 | 160 |
| 45° | 137 | 108 |
| 55° | 79 | 72 |
| 65° | 49 | 49 |
| 75° | 24 | 26 |
| 85° | 6 | 7 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|-------|
| 0° | 522.3 |
| 2.5° | 520.8 |
| 5° | 517.0 |
| 7.5° | 510.7 |
| 10° | 501.6 |
| 12.5° | 489.6 |
| 15° | 475.2 |
| 17.5° | 457.9 |
| 20° | 438.3 |
| 22.5° | 415.2 |
| 25° | 389.8 |
| 27.5° | 361.0 |
| 30° | 329.8 |
| 32.5° | 294.7 |
| 35° | 258.3 |
| 37.5° | 220.8 |
| 40° | 186.3 |
| 42.5° | 158.9 |
| 45° | 137.3 |
| 47.5° | 120.0 |
| 50° | 102.2 |
| 52.5° | 89.3 |
| 55° | 79.2 |
| 57.5° | 70.6 |
| 60° | 63.4 |
| 62.5° | 55.7 |
| 65° | 49.0 |
| 67.5° | 42.2 |
| 70° | 36.5 |
| 72.5° | 30.2 |
| 75° | 24.0 |
| 77.5° | 18.7 |
| 80° | 14.4 |
| 82.5° | 10.1 |
| 85° | 5.8 |
| 87.5° | 2.9 |
| 90° | 0.0 |

(END OF REPORT)