

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: P345266

Luminaire Tested: **PR4FS12D010 PR4M12MD9FSBZ 2000Lm3500K**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P345266
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1908-453-3)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PR4FS12D010 PR4M12MD9FSBZ 2000Lm3500K
Description: PR4 MEDIUM LENS WITH, BRONZE FINISH
Light Source: ARRAY OF HIGH LUMEN LEDs 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1492.8 lumens
Efficiency: N/A
Efficacy: 75.4 lumens/watt
Spacing Criteria (0/90/45): 1/1/2001
Luminous Opening: Circular (Dia: 0.4' x H: 0')
CIE Type: Direct

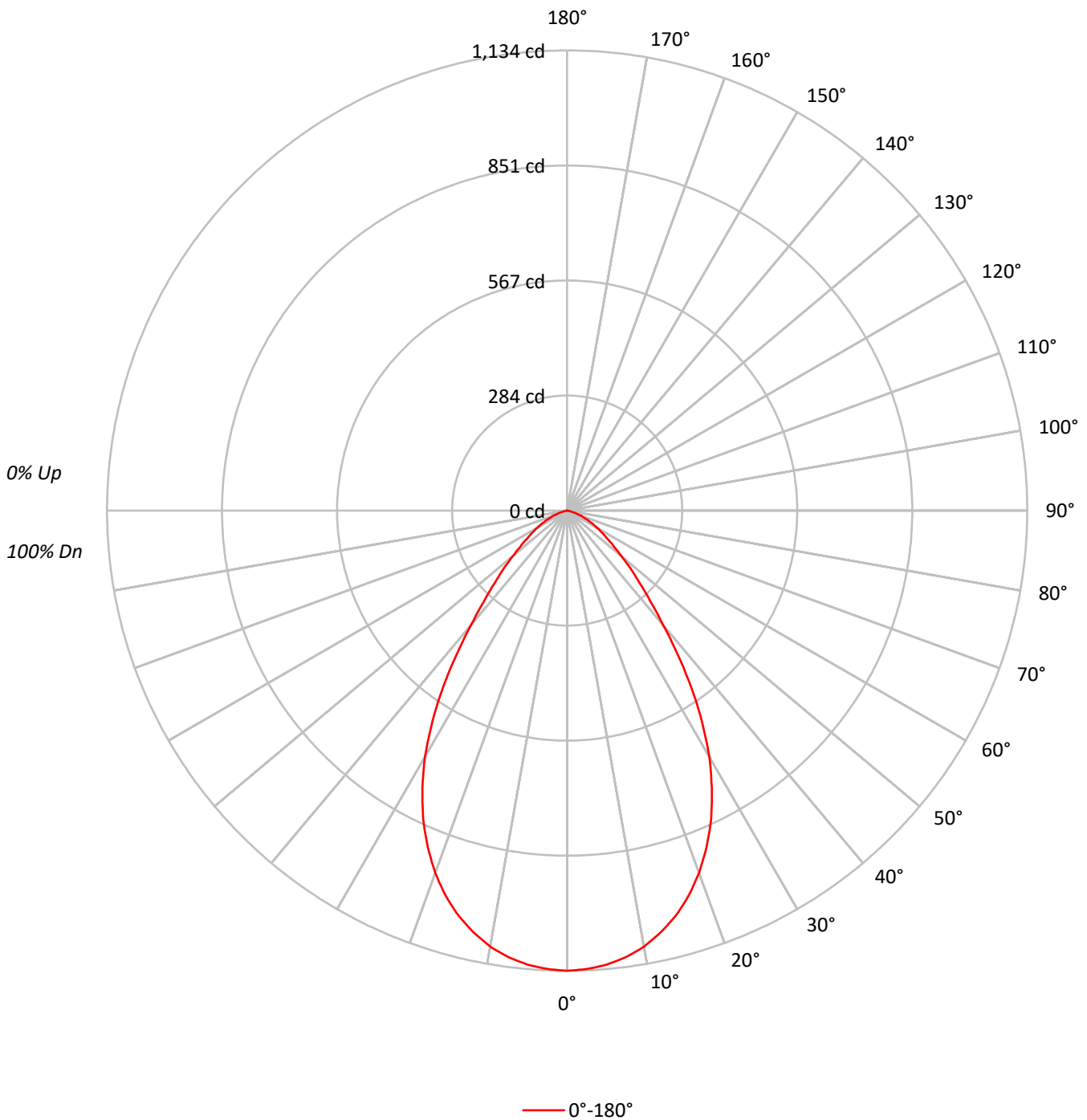
Input Watts (W): 19.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 112 | 109 | 106 | 103 | 110 | 107 | 104 | 102 | 103 | 100 | 98 | 99 | 97 | 95 | 95 | 94 | 93 | 91 |
| 2 | 105 | 99 | 94 | 90 | 103 | 97 | 93 | 89 | 94 | 90 | 87 | 91 | 88 | 85 | 88 | 86 | 83 | 82 |
| 3 | 98 | 91 | 85 | 80 | 96 | 89 | 84 | 79 | 86 | 82 | 78 | 84 | 80 | 76 | 81 | 78 | 75 | 73 |
| 4 | 92 | 83 | 76 | 71 | 90 | 82 | 76 | 71 | 79 | 74 | 70 | 77 | 73 | 69 | 75 | 71 | 68 | 66 |
| 5 | 86 | 76 | 69 | 64 | 85 | 75 | 69 | 64 | 73 | 68 | 63 | 72 | 67 | 63 | 70 | 66 | 62 | 60 |
| 6 | 81 | 70 | 63 | 58 | 79 | 70 | 63 | 58 | 68 | 62 | 58 | 66 | 61 | 57 | 65 | 60 | 57 | 55 |
| 7 | 76 | 65 | 58 | 53 | 75 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 57 | 52 | 61 | 56 | 52 | 51 |
| 8 | 72 | 61 | 54 | 49 | 70 | 60 | 53 | 49 | 59 | 53 | 49 | 58 | 52 | 48 | 57 | 52 | 48 | 47 |
| 9 | 68 | 57 | 50 | 45 | 67 | 56 | 50 | 45 | 55 | 49 | 45 | 54 | 49 | 45 | 53 | 48 | 45 | 43 |
| 10 | 64 | 53 | 46 | 42 | 63 | 53 | 46 | 42 | 52 | 46 | 42 | 51 | 45 | 42 | 50 | 45 | 41 | 40 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|-------|
| | 0° |
| 0° | 99199 |
| 5° | 98612 |
| 10° | 96919 |
| 15° | 93634 |
| 20° | 88466 |
| 25° | 81002 |
| 30° | 70771 |
| 35° | 57085 |
| 40° | 41951 |
| 45° | 31296 |
| 50° | 23650 |
| 55° | 18452 |
| 60° | 15010 |
| 65° | 11611 |
| 70° | 8440 |
| 75° | 4089 |
| 80° | 1108 |
| 85° | 1104 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 106.2 | 7.1 |
| 10°-20° | 289.6 | 19.4 |
| 20°-30° | 382.5 | 25.6 |
| 30°-40° | 331.3 | 22.2 |
| 40°-50° | 199.3 | 13.3 |
| 50°-60° | 111.0 | 7.4 |
| 60°-70° | 56.7 | 3.8 |
| 70°-80° | 14.7 | 1.0 |
| 80°-90° | 1.5 | 0.1 |
| 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° | 778.3 | 52.1 |
| 0°-40° | 1109.6 | 74.3 |
| 0°-60° | 1419.8 | 95.1 |
| 0°-90° | 1492.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1492.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 1134 | |
| 5° | 1123 | 106 |
| 15° | 1034 | 290 |
| 25° | 839 | 382 |
| 35° | 535 | 331 |
| 45° | 253 | 199 |
| 55° | 121 | 111 |
| 65° | 56 | 57 |
| 75° | 12 | 15 |
| 85° | 1 | 1 |
| 90° | 0 | |



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CANDELA DISTRIBUTION (FULL):

| 0° | |
|-------|--------|
| 0° | 1134.1 |
| 2.5° | 1130.8 |
| 5° | 1123.1 |
| 7.5° | 1109.9 |
| 10° | 1091.2 |
| 12.5° | 1064.8 |
| 15° | 1034.0 |
| 17.5° | 995.5 |
| 20° | 950.4 |
| 22.5° | 897.6 |
| 25° | 839.3 |
| 27.5° | 772.2 |
| 30° | 700.7 |
| 32.5° | 619.3 |
| 35° | 534.6 |
| 37.5° | 447.7 |
| 40° | 367.4 |
| 42.5° | 303.6 |
| 45° | 253.0 |
| 47.5° | 212.3 |
| 50° | 173.8 |
| 52.5° | 145.2 |
| 55° | 121.0 |
| 57.5° | 102.3 |
| 60° | 85.8 |
| 62.5° | 70.4 |
| 65° | 56.1 |
| 67.5° | 44.0 |
| 70° | 33.0 |
| 72.5° | 22.0 |
| 75° | 12.1 |
| 77.5° | 4.4 |
| 80° | 2.2 |
| 82.5° | 2.2 |
| 85° | 1.1 |
| 87.5° | 1.1 |
| 90° | 0.0 |

(END OF REPORT)