

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: FAIL-SAFE

Report Number: 4870

Luminaire Tested: **FWSCR-340-120**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 4870
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FWSCR-340-120
Description: FAIL-SAFE
Light Source: 3/40W 3200 LUMENS
F40T12RS/WW
Ballast/Driver: -

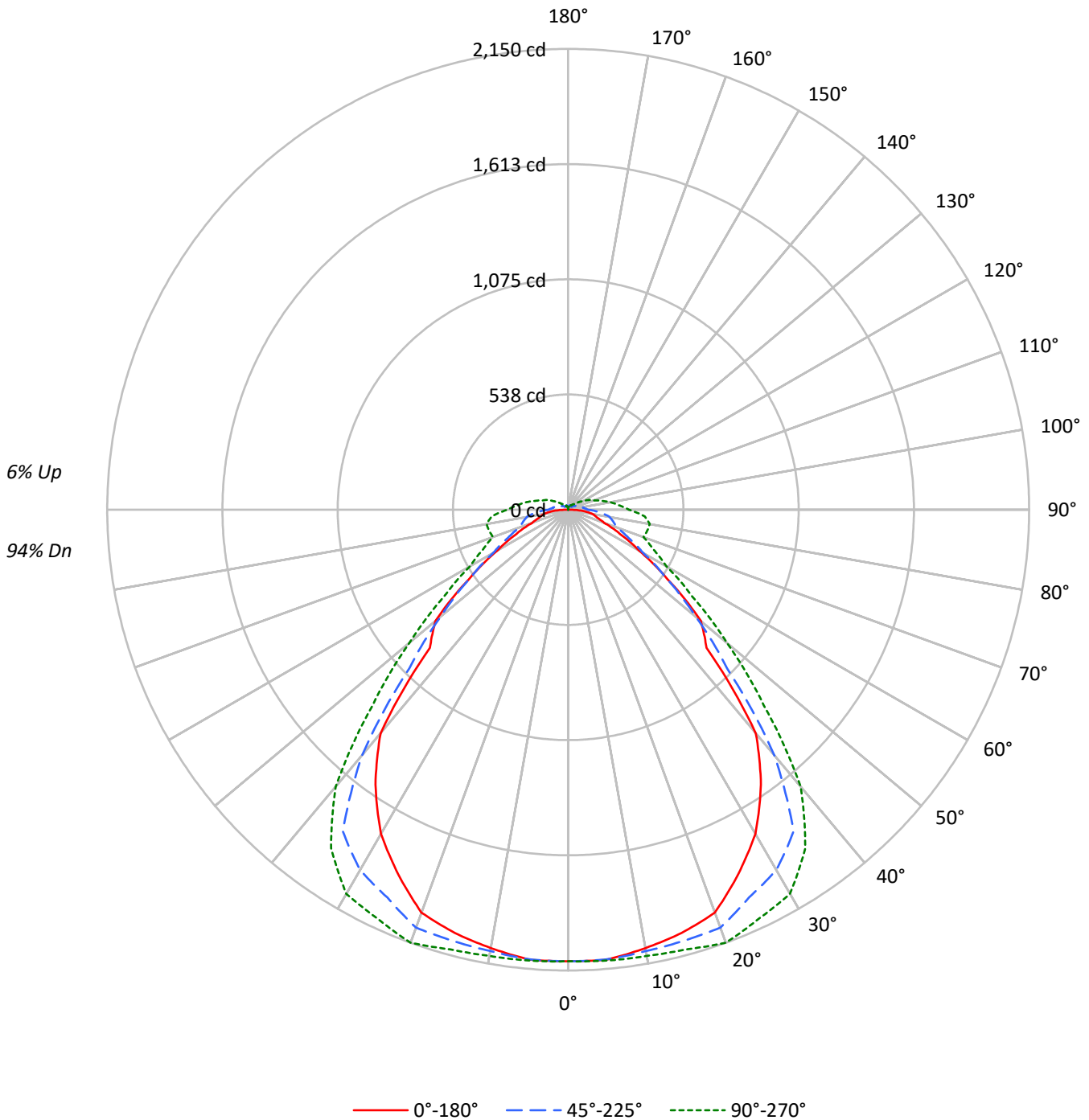
Summary

Lumens per Lamp: 3200 (3 lamps)
Luminaire Lumens: 5284.7 lumens
Efficiency: 55.0%
Efficacy: 37.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.41 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 1.09' x L: 3.94' x H: 0.14')
CIE Type: Direct

Input Watts (W): 143
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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CATALOG NUMBER: FWSCR-340-120

Luminous Intensity Polar Plot





TEST NUMBER: 4870

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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 | 65 | 65 | 65 | 65 | 63 | 63 | 63 | 63 | 59 | 59 | 59 | | 56 | 56 | 56 | | 53 | 53 | 53 | 52 |
| 1 | 59 | 57 | 54 | 52 | 58 | 55 | 53 | 51 | 52 | 51 | 49 | | 50 | 48 | 47 | | 47 | 46 | 45 | 44 |
| 2 | 54 | 50 | 47 | 44 | 53 | 49 | 46 | 43 | 47 | 44 | 42 | | 44 | 42 | 40 | | 42 | 40 | 39 | 38 |
| 3 | 50 | 45 | 41 | 37 | 49 | 44 | 40 | 37 | 42 | 38 | 36 | | 40 | 37 | 35 | | 38 | 36 | 34 | 32 |
| 4 | 46 | 40 | 36 | 32 | 45 | 39 | 35 | 32 | 38 | 34 | 31 | | 36 | 33 | 30 | | 34 | 32 | 30 | 28 |
| 5 | 43 | 36 | 32 | 28 | 42 | 35 | 31 | 28 | 34 | 30 | 27 | | 33 | 29 | 27 | | 31 | 29 | 26 | 25 |
| 6 | 40 | 33 | 28 | 25 | 39 | 32 | 28 | 25 | 31 | 27 | 24 | | 30 | 26 | 24 | | 29 | 26 | 23 | 22 |
| 7 | 37 | 30 | 26 | 22 | 36 | 29 | 25 | 22 | 28 | 25 | 22 | | 27 | 24 | 21 | | 26 | 23 | 21 | 20 |
| 8 | 35 | 28 | 23 | 20 | 34 | 27 | 23 | 20 | 26 | 22 | 20 | | 25 | 22 | 19 | | 24 | 21 | 19 | 18 |
| 9 | 32 | 25 | 21 | 18 | 31 | 25 | 21 | 18 | 24 | 20 | 18 | | 23 | 20 | 18 | | 23 | 20 | 17 | 16 |
| 10 | 30 | 23 | 19 | 17 | 30 | 23 | 19 | 16 | 22 | 19 | 16 | | 22 | 18 | 16 | | 21 | 18 | 16 | 15 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 5281 | 5281 | 5281 |
| 5° | 5284 | 5245 | 5253 |
| 10° | 5253 | 5214 | 5261 |
| 15° | 5254 | 5240 | 5326 |
| 20° | 5268 | 5310 | 5478 |
| 25° | 5105 | 5238 | 5493 |
| 30° | 4952 | 5265 | 5576 |
| 35° | 4678 | 5186 | 5412 |
| 40° | 4325 | 4458 | 4984 |
| 45° | 3121 | 3329 | 4051 |
| 50° | 3020 | 2660 | 3266 |
| 55° | 2351 | 2098 | 2608 |
| 60° | 1804 | 1684 | 2175 |
| 65° | 1466 | 1470 | 2036 |
| 70° | 1190 | 1327 | 2021 |
| 75° | 1185 | 1473 | 2497 |
| 80° | 1393 | 1708 | 3225 |
| 85° | 1452 | 1885 | 4182 |



TEST NUMBER: 4870

CATALOG NUMBER: FWSCR-340-120

ZONAL LUMENS:

CANDELA DISTRIBUTION:

| Zone | Lumens | % Fixture | % Lamp | | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----------|--------|-----------|--------|------|------|-------|------|-------|------|------|
| 0°-10° | 200.5 | 3.8 | 2.1 | 0° | 2107 | 2107 | 2107 | 2107 | 2107 | |
| 10°-20° | 553.9 | 10.5 | 5.8 | 5° | 2107 | 2105 | 2106 | 2107 | 2111 | 200 |
| 20°-30° | 922.2 | 17.5 | 9.6 | 15° | 2044 | 1028 | 2082 | 2112 | 2123 | 578 |
| 30°-40° | 1098.5 | 20.8 | 11.4 | 25° | 1876 | 1909 | 1996 | 2074 | 2105 | 865 |
| 40°-50° | 865.6 | 16.4 | 9.0 | 35° | 1567 | 1664 | 1832 | 1915 | 1928 | 976 |
| 50°-60° | 545.2 | 10.3 | 5.7 | 45° | 912 | 1018 | 1048 | 1162 | 1290 | 768 |
| 60°-70° | 338.5 | 6.4 | 3.5 | 55° | 565 | 538 | 560 | 648 | 706 | 517 |
| 70°-80° | 257.5 | 4.9 | 2.7 | 65° | 266 | 278 | 310 | 405 | 438 | 270 |
| 80°-90° | 194.9 | 3.7 | 2.0 | 75° | 139 | 166 | 218 | 337 | 381 | 151 |
| 90°-100° | 112.4 | 2.1 | 1.2 | 85° | 71 | 80 | 152 | 295 | 359 | 66 |
| 100°-110° | 75.7 | 1.4 | 0.8 | 90° | 8 | 21 | 92 | 233 | 283 | 12 |
| 110°-120° | 49.2 | 0.9 | 0.5 | 95° | 0 | 16 | 76 | 195 | 238 | 2 |
| 120°-130° | 29.8 | 0.6 | 0.3 | 105° | 0 | 16 | 57 | 132 | 159 | 0 |
| 130°-140° | 16.6 | 0.3 | 0.2 | 115° | 0 | 18 | 43 | 89 | 108 | 0 |
| 140°-150° | 11.8 | 0.2 | 0.1 | 125° | 0 | 21 | 32 | 54 | 64 | 0 |
| 150°-160° | 7.4 | 0.1 | 0.1 | 135° | 0 | 14 | 20 | 29 | 35 | 0 |
| 160°-170° | 3.9 | 0.1 | 0.0 | 145° | 0 | 17 | 21 | 25 | 25 | 0 |
| 170°-180° | 1.0 | 0.0 | 0.0 | 155° | 0 | 15 | 19 | 18 | 16 | 0 |
| 0°-30° | 1676.7 | 31.7 | 17.5 | 165° | 0 | 13 | 15 | 15 | 14 | 0 |
| 0°-40° | 2775.1 | 52.5 | 28.9 | 175° | 0 | 14 | 16 | 13 | 13 | 0 |
| 0°-60° | 4185.9 | 79.2 | 43.6 | 180° | 0 | 0 | 0 | 0 | 0 | 0 |
| 0°-90° | 4976.9 | 94.2 | 51.8 | | | | | | | |
| 90°-120° | 237.3 | 4.5 | 2.5 | | | | | | | |
| 90°-150° | 295.5 | 5.6 | 3.1 | | | | | | | |
| 90°-180° | 308.0 | 5.8 | 3.2 | | | | | | | |
| 0°-180° | 5284.7 | 100.0 | 55.0 | | | | | | | |



TEST NUMBER: 4870

CATALOG NUMBER: FWSCR-340-120

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|------|--------|--------|--------|--------|--------|
| 0° | 2107.0 | 2107.0 | 2107.0 | 2107.0 | 2107.0 |
| 5° | 2106.8 | 2104.6 | 2105.7 | 2106.8 | 2111.4 |
| 10° | 2076.8 | 2079.0 | 2090.6 | 2098.7 | 2113.9 |
| 15° | 2044.2 | 1027.5 | 2082.3 | 2112.3 | 2123.4 |
| 20° | 2000.5 | 2023.4 | 2074.8 | 2126.1 | 2149.9 |
| 25° | 1876.4 | 1909.0 | 1996.4 | 2074.2 | 2105.2 |
| 30° | 1746.2 | 1811.1 | 1941.0 | 2035.1 | 2069.5 |
| 35° | 1567.0 | 1663.7 | 1832.5 | 1915.0 | 1927.9 |
| 40° | 1361.2 | 1429.0 | 1495.2 | 1618.1 | 1687.6 |
| 45° | 911.9 | 1018.2 | 1048.0 | 1161.8 | 1289.8 |
| 50° | 807.3 | 747.4 | 776.5 | 870.9 | 965.8 |
| 55° | 565.3 | 537.5 | 559.5 | 647.9 | 706.3 |
| 60° | 382.1 | 375.7 | 403.5 | 491.8 | 530.3 |
| 65° | 266.1 | 278.2 | 309.5 | 405.2 | 437.8 |
| 70° | 178.2 | 197.1 | 238.8 | 342.1 | 373.1 |
| 75° | 138.6 | 165.8 | 218.0 | 336.8 | 381.4 |
| 80° | 116.0 | 117.5 | 196.1 | 317.4 | 386.2 |
| 85° | 71.0 | 80.5 | 152.4 | 295.1 | 358.9 |
| 90° | 7.5 | 20.7 | 92.3 | 232.9 | 283.2 |
| 95° | 0.0 | 15.7 | 75.7 | 195.2 | 237.7 |
| 100° | 0.0 | 15.8 | 67.3 | 163.0 | 199.6 |
| 105° | 0.0 | 15.5 | 57.2 | 131.9 | 159.2 |
| 110° | 0.0 | 14.7 | 47.1 | 103.8 | 126.5 |
| 115° | 0.0 | 18.4 | 43.1 | 89.3 | 108.0 |
| 120° | 0.0 | 16.1 | 32.5 | 65.2 | 80.0 |
| 125° | 0.0 | 20.9 | 31.7 | 54.5 | 63.5 |
| 130° | 0.0 | 16.0 | 20.2 | 38.8 | 44.7 |
| 135° | 0.0 | 14.5 | 20.2 | 29.4 | 34.8 |
| 140° | 0.0 | 17.5 | 19.2 | 29.1 | 32.1 |
| 145° | 0.0 | 16.9 | 20.9 | 24.6 | 24.6 |
| 150° | 0.0 | 16.1 | 19.6 | 20.8 | 22.1 |
| 155° | 0.0 | 15.3 | 19.3 | 17.9 | 16.5 |
| 160° | 0.0 | 17.4 | 20.2 | 20.2 | 18.8 |
| 165° | 0.0 | 12.6 | 15.3 | 15.3 | 13.9 |
| 170° | 0.0 | 13.8 | 13.8 | 15.0 | 12.6 |
| 175° | 0.0 | 14.3 | 16.4 | 13.2 | 13.2 |
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)