

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: 6418.1

Luminaire Tested: **FAS-X10-240**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: 6418.1  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FAS-X10-240  
Description: FAIL-SAFE SURFACE MT SECURITY FIXT.-  
WHITE REFL W/.125 PRIS & .25 POLYCARB, 91.5% REFL  
Light Source: 2/40W BIAX F40BX/SPX35/RS  
Ballast/Driver: -

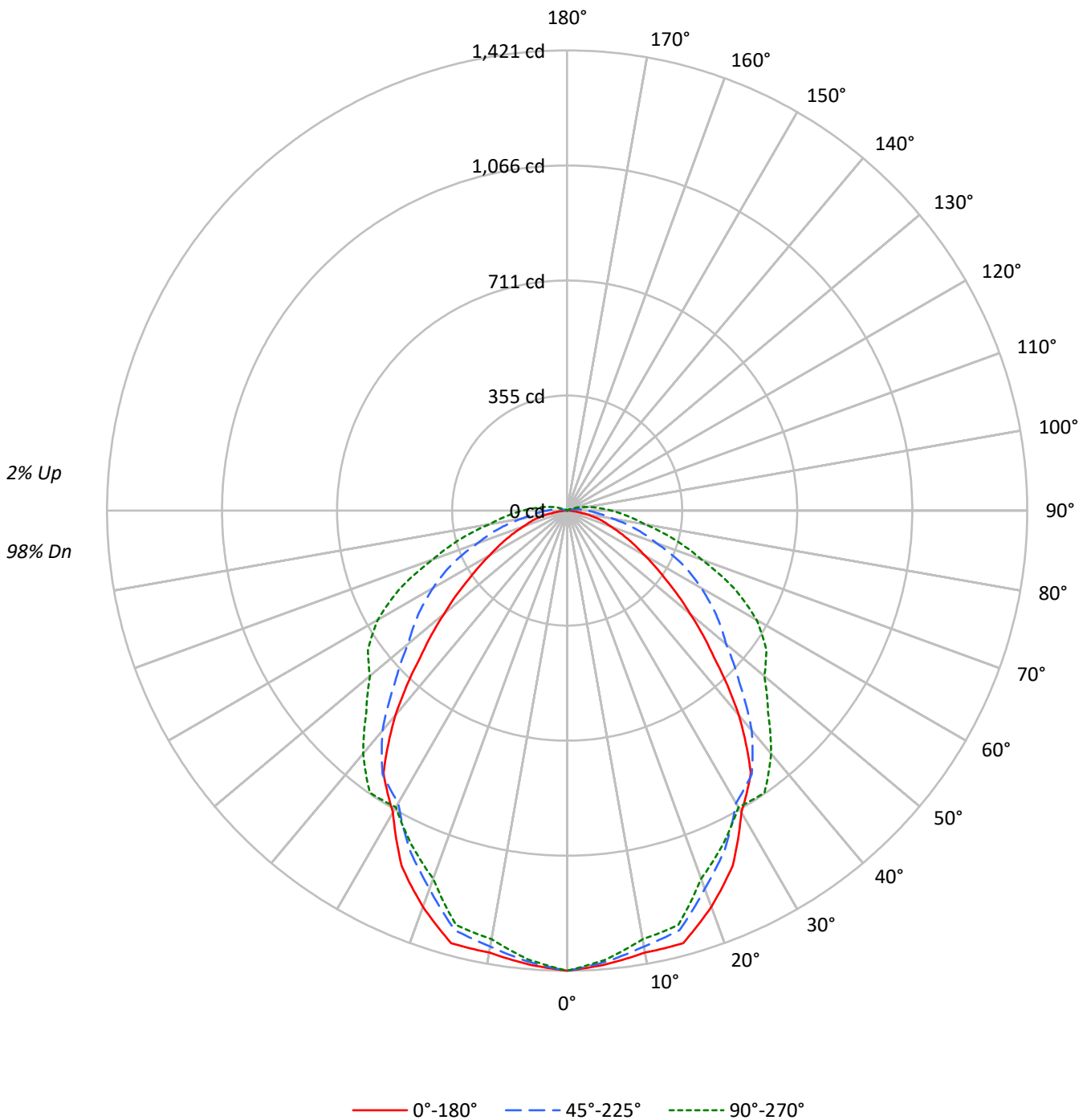
**Summary**

Lumens per Lamp: 3150 (2 lamps)  
Luminaire Lumens: 3552.2 lumens  
Efficiency: 56.4%  
Efficacy: 44.4 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.12 / 1.26  
Luminous Opening: Rectangular w/ Sides (W: 0.94' x L: 1.83' x H: 0.21')  
CIE Type: Direct

Input Watts (W): 80  
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   | 67 | 67 | 67 | 67 | 65 | 65 | 65 | 65 | 62 | 62 | 62 |  | 59 | 59 | 59 |  | 57 | 57 | 57 | 55 |
| 1   | 61 | 58 | 56 | 54 | 59 | 57 | 55 | 53 | 54 | 52 | 51 |  | 52 | 50 | 49 |  | 50 | 48 | 47 | 46 |
| 2   | 56 | 51 | 47 | 44 | 54 | 50 | 46 | 43 | 48 | 45 | 42 |  | 46 | 43 | 41 |  | 44 | 42 | 40 | 39 |
| 3   | 51 | 45 | 40 | 37 | 49 | 44 | 40 | 36 | 42 | 38 | 36 |  | 40 | 37 | 35 |  | 39 | 36 | 34 | 33 |
| 4   | 47 | 40 | 35 | 31 | 45 | 39 | 35 | 31 | 38 | 34 | 31 |  | 36 | 33 | 30 |  | 35 | 32 | 29 | 28 |
| 5   | 43 | 36 | 31 | 27 | 42 | 35 | 30 | 27 | 34 | 30 | 27 |  | 33 | 29 | 26 |  | 31 | 28 | 26 | 25 |
| 6   | 40 | 32 | 27 | 24 | 39 | 32 | 27 | 24 | 31 | 27 | 23 |  | 30 | 26 | 23 |  | 29 | 25 | 23 | 22 |
| 7   | 37 | 29 | 25 | 21 | 36 | 29 | 24 | 21 | 28 | 24 | 21 |  | 27 | 23 | 21 |  | 26 | 23 | 20 | 19 |
| 8   | 34 | 27 | 22 | 19 | 34 | 27 | 22 | 19 | 26 | 22 | 19 |  | 25 | 21 | 19 |  | 24 | 21 | 18 | 17 |
| 9   | 32 | 25 | 20 | 17 | 31 | 24 | 20 | 17 | 24 | 20 | 17 |  | 23 | 19 | 17 |  | 22 | 19 | 17 | 16 |
| 10  | 30 | 23 | 19 | 16 | 30 | 23 | 18 | 16 | 22 | 18 | 15 |  | 21 | 18 | 15 |  | 21 | 18 | 15 | 14 |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 8896 | 8896 | 8896 |
| 5°  | 8749 | 8607 | 8575 |
| 10° | 8638 | 8341 | 8222 |
| 15° | 8699 | 8172 | 8106 |
| 20° | 8330 | 7623 | 7459 |
| 25° | 7938 | 7172 | 7124 |
| 30° | 7300 | 6632 | 6780 |
| 35° | 7002 | 6515 | 7032 |
| 40° | 6156 | 6046 | 6753 |
| 45° | 5097 | 5382 | 6355 |
| 50° | 4255 | 4868 | 6124 |
| 55° | 3494 | 4583 | 6225 |
| 60° | 2878 | 4243 | 6115 |
| 65° | 2442 | 3860 | 5722 |
| 70° | 1981 | 3248 | 5016 |
| 75° | 1750 | 2824 | 4526 |
| 80° | 1075 | 2184 | 3881 |
| 85° | 438  | 1820 | 3760 |



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

| Zone      | Lumens | % Fixture | % Lamp |      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----------|--------|-----------|--------|------|------|-------|------|-------|------|------|
| 0°-10°    | 132.5  | 3.7       | 2.1    | 0°   | 1421 | 1421  | 1421 | 1421  | 1421 |      |
| 10°-20°   | 374.7  | 10.5      | 5.9    | 5°   | 1406 | 1407  | 1398 | 1386  | 1391 | 134  |
| 20°-30°   | 535.3  | 15.1      | 8.5    | 15°  | 1383 | 1364  | 1341 | 1324  | 1325 | 386  |
| 30°-40°   | 622.6  | 17.5      | 9.9    | 25°  | 1210 | 1196  | 1153 | 1154  | 1138 | 553  |
| 40°-50°   | 590.3  | 16.6      | 9.4    | 35°  | 989  | 988   | 994  | 1040  | 1063 | 607  |
| 50°-60°   | 501.7  | 14.1      | 8.0    | 45°  | 641  | 680   | 752  | 849   | 877  | 501  |
| 60°-70°   | 383.3  | 10.8      | 6.1    | 55°  | 372  | 426   | 562  | 693   | 751  | 338  |
| 70°-80°   | 231.1  | 6.5       | 3.7    | 65°  | 205  | 258   | 393  | 523   | 570  | 205  |
| 80°-90°   | 113.0  | 3.2       | 1.8    | 75°  | 103  | 122   | 220  | 311   | 342  | 105  |
| 90°-100°  | 48.2   | 1.4       | 0.8    | 85°  | 14   | 51    | 94   | 158   | 185  | 20   |
| 100°-110° | 15.9   | 0.4       | 0.3    | 90°  | 2    | 29    | 61   | 110   | 137  | 2    |
| 110°-120° | 3.1    | 0.1       | 0.0    | 95°  | 0    | 8     | 40   | 72    | 94   | 0    |
| 120°-130° | 0.6    | 0.0       | 0.0    | 105° | 0    | 0     | 9    | 28    | 41   | 0    |
| 130°-140° | 0.0    | 0.0       | 0.0    | 115° | 0    | 0     | 2    | 5     | 8    | 0    |
| 140°-150° | 0.0    | 0.0       | 0.0    | 125° | 0    | 0     | 0    | 0     | 5    | 0    |
| 150°-160° | 0.0    | 0.0       | 0.0    | 135° | 0    | 0     | 0    | 0     | 0    | 0    |
| 160°-170° | 0.0    | 0.0       | 0.0    | 145° | 0    | 0     | 0    | 0     | 0    | 0    |
| 170°-180° | 0.0    | 0.0       | 0.0    | 155° | 0    | 0     | 0    | 0     | 0    | 0    |
| 0°-30°    | 1042.4 | 29.3      | 16.5   | 165° | 0    | 0     | 0    | 0     | 0    | 0    |
| 0°-40°    | 1665.0 | 46.9      | 26.4   | 175° | 0    | 0     | 0    | 0     | 0    | 0    |
| 0°-60°    | 2757.0 | 77.6      | 43.8   | 180° | 0    | 0     | 0    | 0     | 0    | 0    |
| 0°-90°    | 3484.4 | 98.1      | 55.3   |      |      |       |      |       |      |      |
| 90°-120°  | 67.1   | 1.9       | 1.1    |      |      |       |      |       |      |      |
| 90°-150°  | 67.8   | 1.9       | 1.1    |      |      |       |      |       |      |      |
| 90°-180°  | 68.0   | 1.9       | 1.1    |      |      |       |      |       |      |      |
| 0°-180°   | 3552.2 | 100.0     | 56.4   |      |      |       |      |       |      |      |



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**CANDELA DISTRIBUTION (FULL):**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  |
|------|------|-------|------|-------|------|
| 0°   | 1421 | 1421  | 1421 | 1421  | 1421 |
| 5°   | 1406 | 1407  | 1398 | 1386  | 1391 |
| 10°  | 1386 | 1378  | 1367 | 1347  | 1344 |
| 15°  | 1383 | 1364  | 1341 | 1324  | 1325 |
| 20°  | 1302 | 1278  | 1243 | 1222  | 1210 |
| 25°  | 1210 | 1196  | 1153 | 1154  | 1138 |
| 30°  | 1076 | 1054  | 1043 | 1058  | 1058 |
| 35°  | 989  | 988   | 994  | 1040  | 1063 |
| 40°  | 825  | 841   | 887  | 950   | 980  |
| 45°  | 641  | 680   | 752  | 849   | 877  |
| 50°  | 496  | 531   | 641  | 761   | 795  |
| 55°  | 372  | 426   | 562  | 693   | 751  |
| 60°  | 275  | 333   | 478  | 618   | 676  |
| 65°  | 205  | 258   | 393  | 523   | 570  |
| 70°  | 142  | 174   | 293  | 408   | 441  |
| 75°  | 103  | 122   | 220  | 311   | 342  |
| 80°  | 49   | 79    | 142  | 217   | 243  |
| 85°  | 14   | 51    | 94   | 158   | 185  |
| 90°  | 2    | 29    | 61   | 110   | 137  |
| 95°  | 0    | 8     | 40   | 72    | 94   |
| 100° | 0    | 1     | 21   | 48    | 64   |
| 105° | 0    | 0     | 9    | 28    | 41   |
| 110° | 0    | 0     | 4    | 10    | 17   |
| 115° | 0    | 0     | 2    | 5     | 8    |
| 120° | 0    | 0     | 1    | 1     | 6    |
| 125° | 0    | 0     | 0    | 0     | 5    |
| 130° | 0    | 0     | 0    | 0     | 1    |
| 135° | 0    | 0     | 0    | 0     | 0    |
| 140° | 0    | 0     | 0    | 0     | 0    |
| 145° | 0    | 0     | 0    | 0     | 0    |
| 150° | 0    | 0     | 0    | 0     | 0    |
| 155° | 0    | 0     | 0    | 0     | 0    |
| 160° | 0    | 0     | 0    | 0     | 0    |
| 165° | 0    | 0     | 0    | 0     | 0    |
| 170° | 0    | 0     | 0    | 0     | 0    |
| 175° | 0    | 0     | 0    | 0     | 0    |
| 180° | 0    | 0     | 0    | 0     | 0    |

(END OF REPORT)