

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: METALUX

Report Number: P294392

Luminaire Tested: **24GR-LD5-56-FGW080-UNV-L92765-W2A1-U-5700K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P294392
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-25)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-56-FGW080-UNV-L92765-W2A1-U-5700K
Description: GRLED 2x4 TUNABLE WHITE TROFFER
WITH FGW080 LENS
Light Source: (336) 90 CRI LEDS TUNED TO 5700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4632.0 lumens
Efficiency: N/A
Efficacy: 115.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.25 / 1.36
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

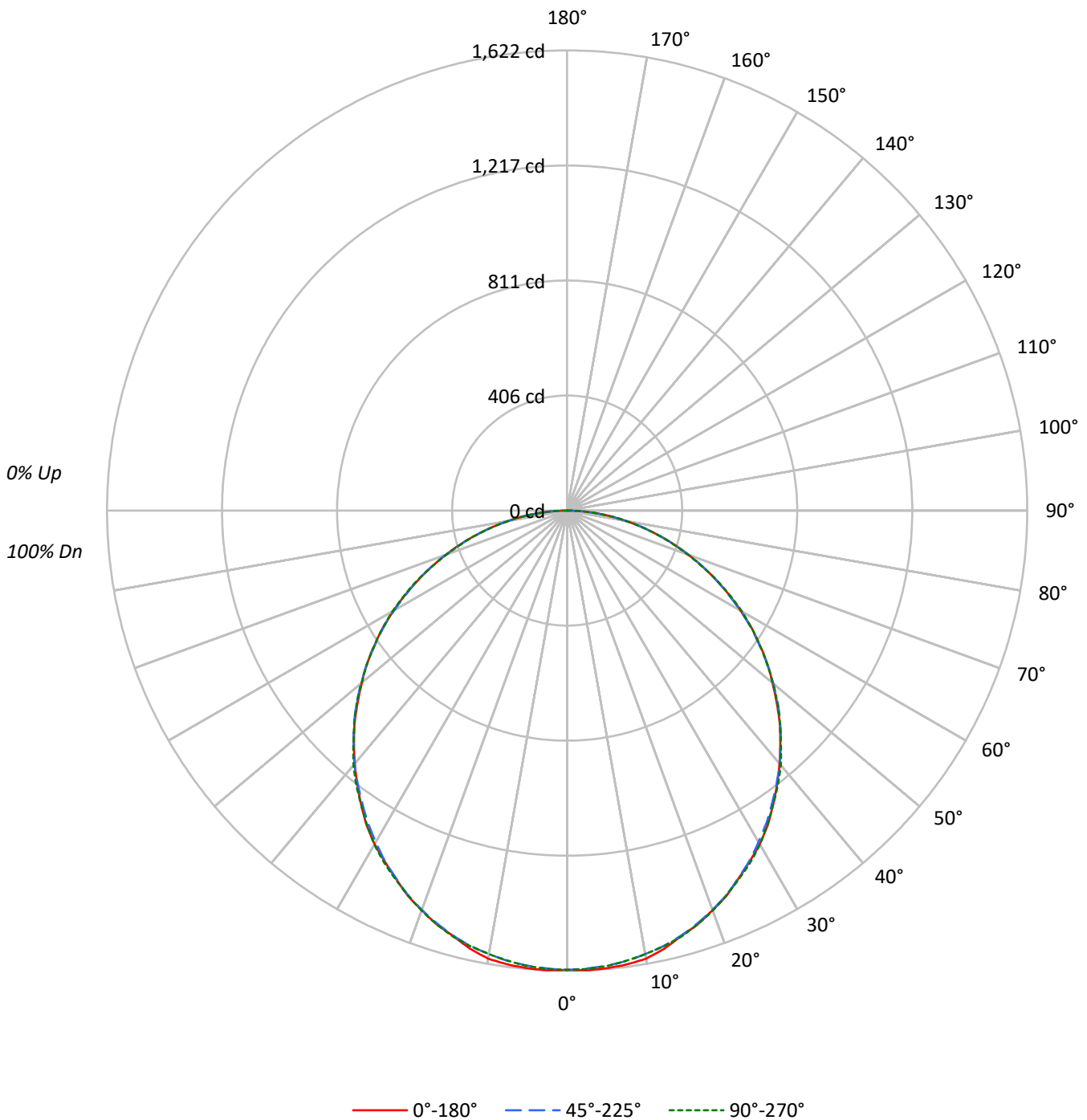
Input Watts (W): 40.176
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 108 | 103 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | | 93 | 90 | 88 | | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 84 | 79 | 74 | | 81 | 77 | 73 | | 78 | 74 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 77 | 70 | 63 | 74 | 68 | 62 | | 71 | 66 | 61 | | 69 | 64 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 68 | 60 | 54 | 66 | 59 | 53 | | 64 | 57 | 52 | | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 53 | 46 | 59 | 51 | 46 | | 57 | 50 | 45 | | 55 | 49 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 40 | 53 | 46 | 40 | | 52 | 45 | 40 | | 50 | 44 | 39 | 37 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | | 47 | 40 | 35 | | 46 | 40 | 35 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 32 | | 43 | 36 | 31 | | 42 | 36 | 31 | 29 |
| 9 | 56 | 43 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 28 | | 40 | 33 | 28 | | 39 | 33 | 28 | 26 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | | 37 | 30 | 26 | | 36 | 30 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2178 | 2178 | 2178 |
| 5° | 2187 | 2175 | 2176 |
| 10° | 2191 | 2169 | 2169 |
| 15° | 2162 | 2161 | 2165 |
| 20° | 2146 | 2144 | 2149 |
| 25° | 2123 | 2121 | 2128 |
| 30° | 2110 | 2096 | 2111 |
| 35° | 2080 | 2069 | 2080 |
| 40° | 2045 | 2047 | 2059 |
| 45° | 2016 | 2022 | 2018 |
| 50° | 1978 | 1985 | 1980 |
| 55° | 1947 | 1942 | 1947 |
| 60° | 1902 | 1896 | 1914 |
| 65° | 1843 | 1850 | 1857 |
| 70° | 1783 | 1792 | 1779 |
| 75° | 1721 | 1721 | 1721 |
| 80° | 1625 | 1625 | 1642 |
| 85° | 1501 | 1518 | 1467 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 153.1 | 3.3 |
| 10°-20° | 437.6 | 9.4 |
| 20°-30° | 659.5 | 14.2 |
| 30°-40° | 789.9 | 17.1 |
| 40°-50° | 817.6 | 17.7 |
| 50°-60° | 741.3 | 16.0 |
| 60°-70° | 574.7 | 12.4 |
| 70°-80° | 349.5 | 7.5 |
| 80°-90° | 108.7 | 2.3 |
| 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° | 1250.2 | 27.0 |
| 0°-40° | 2040.0 | 44.0 |
| 0°-60° | 3599.0 | 77.7 |
| 0°-90° | 4632.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4632.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1619 | 1619 | 1619 | 1619 | 1619 | |
| 5° | 1619 | 1609 | 1610 | 1608 | 1611 | 154 |
| 15° | 1552 | 1553 | 1551 | 1546 | 1554 | 439 |
| 25° | 1430 | 1430 | 1429 | 1433 | 1433 | 660 |
| 35° | 1266 | 1257 | 1260 | 1265 | 1266 | 792 |
| 45° | 1060 | 1062 | 1063 | 1058 | 1061 | 816 |
| 55° | 830 | 826 | 828 | 831 | 830 | 742 |
| 65° | 579 | 582 | 581 | 579 | 583 | 574 |
| 75° | 331 | 330 | 331 | 330 | 331 | 350 |
| 85° | 97 | 96 | 98 | 97 | 95 | 109 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1618.9 | 1618.9 | 1618.9 | 1618.9 | 1618.9 |
| 2.5° | 1622.2 | 1615.7 | 1615.7 | 1613.5 | 1616.8 |
| 5° | 1618.9 | 1609.1 | 1610.2 | 1608.0 | 1611.3 |
| 7.5° | 1613.5 | 1600.4 | 1601.5 | 1599.3 | 1600.4 |
| 10° | 1603.6 | 1588.3 | 1587.3 | 1586.2 | 1587.3 |
| 12.5° | 1581.8 | 1573.1 | 1572.0 | 1569.8 | 1573.1 |
| 15° | 1552.3 | 1553.4 | 1551.2 | 1545.7 | 1554.5 |
| 17.5° | 1529.4 | 1528.3 | 1526.1 | 1520.6 | 1529.4 |
| 20° | 1498.8 | 1499.9 | 1497.7 | 1495.5 | 1501.0 |
| 22.5° | 1469.3 | 1466.0 | 1467.1 | 1466.0 | 1467.1 |
| 25° | 1430.0 | 1430.0 | 1428.9 | 1433.2 | 1433.2 |
| 27.5° | 1393.9 | 1389.5 | 1391.7 | 1396.1 | 1398.3 |
| 30° | 1357.9 | 1346.9 | 1349.1 | 1353.5 | 1358.9 |
| 32.5° | 1315.2 | 1304.3 | 1306.5 | 1310.9 | 1313.1 |
| 35° | 1266.1 | 1257.4 | 1259.5 | 1265.0 | 1266.1 |
| 37.5° | 1215.8 | 1210.4 | 1212.6 | 1216.9 | 1220.2 |
| 40° | 1164.5 | 1162.3 | 1165.6 | 1164.5 | 1172.1 |
| 42.5° | 1112.1 | 1111.0 | 1114.2 | 1114.2 | 1115.3 |
| 45° | 1059.6 | 1061.8 | 1062.9 | 1058.5 | 1060.7 |
| 47.5° | 1001.7 | 1002.8 | 1007.2 | 1005.0 | 1006.1 |
| 50° | 944.9 | 943.8 | 948.2 | 949.3 | 946.0 |
| 52.5° | 890.3 | 884.8 | 889.2 | 891.4 | 889.2 |
| 55° | 830.2 | 825.9 | 828.0 | 831.3 | 830.2 |
| 57.5° | 771.2 | 766.9 | 768.0 | 773.4 | 771.2 |
| 60° | 706.8 | 705.7 | 704.6 | 709.0 | 711.2 |
| 62.5° | 643.4 | 642.3 | 640.1 | 644.5 | 646.7 |
| 65° | 579.0 | 582.2 | 581.2 | 579.0 | 583.3 |
| 67.5° | 517.8 | 521.1 | 517.8 | 515.6 | 515.6 |
| 70° | 453.3 | 456.6 | 455.5 | 453.3 | 452.3 |
| 72.5° | 393.3 | 393.3 | 391.1 | 390.0 | 391.1 |
| 75° | 331.0 | 329.9 | 331.0 | 329.9 | 331.0 |
| 77.5° | 269.8 | 270.9 | 270.9 | 270.9 | 269.8 |
| 80° | 209.7 | 209.7 | 209.7 | 210.8 | 211.9 |
| 82.5° | 154.0 | 150.8 | 154.0 | 151.8 | 152.9 |
| 85° | 97.2 | 96.1 | 98.3 | 97.2 | 95.0 |
| 87.5° | 43.7 | 44.8 | 44.8 | 45.9 | 45.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)