

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: P219043

Luminaire Tested: **24GR-LD5-48-F1-UNV-L935-CD1-U**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P219043
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35585)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/12/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-48-F1-UNV-L935-CD1-U
Description: METALUX GR 2X4 LED TROFFER WITH F1 LENS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4097.9 lumens
Efficiency: N/A
Efficacy: 109.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.26
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')
CIE Type: Direct

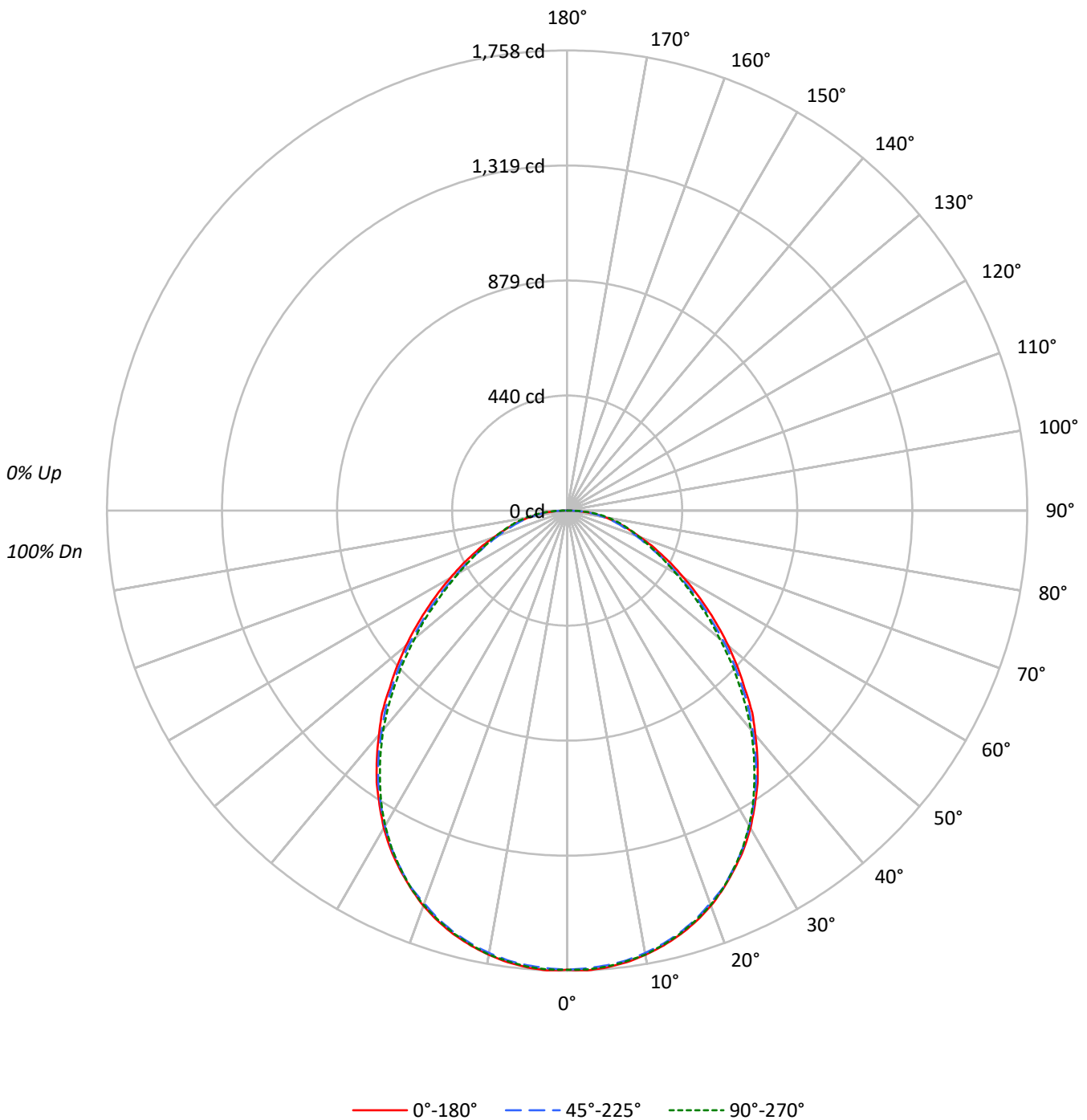
Input Watts (W): 37.486
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P219043

CATALOG NUMBER: 24GR-LD5-48-F1-UNV-L935-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P219043

CATALOG NUMBER: 24GR-LD5-48-F1-UNV-L935-CD1-U

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 | 109 | 105 | 101 | 97 | 107 | 103 | 99 | 96 | 98 | 95 | 93 | 94 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 86 | 80 | 98 | 90 | 85 | 80 | 87 | 82 | 78 | 84 | 80 | 76 | 81 | 77 | 74 | 72 |
| 3 | 92 | 82 | 74 | 68 | 89 | 80 | 73 | 67 | 77 | 71 | 66 | 75 | 69 | 65 | 72 | 68 | 64 | 62 |
| 4 | 85 | 73 | 65 | 58 | 82 | 72 | 64 | 58 | 69 | 63 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 54 |
| 5 | 78 | 66 | 57 | 51 | 76 | 65 | 57 | 51 | 63 | 56 | 50 | 61 | 55 | 50 | 59 | 54 | 49 | 47 |
| 6 | 72 | 60 | 51 | 45 | 71 | 59 | 51 | 45 | 57 | 50 | 44 | 55 | 49 | 44 | 54 | 48 | 44 | 42 |
| 7 | 67 | 54 | 46 | 40 | 66 | 54 | 46 | 40 | 52 | 45 | 40 | 51 | 44 | 39 | 49 | 44 | 39 | 37 |
| 8 | 63 | 50 | 42 | 36 | 61 | 49 | 41 | 36 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | 33 |
| 9 | 59 | 46 | 38 | 33 | 58 | 45 | 38 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 30 |
| 10 | 55 | 43 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 29 | 39 | 33 | 29 | 28 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2687 | 2687 | 2687 |
| 5° | 2694 | 2681 | 2689 |
| 10° | 2680 | 2669 | 2679 |
| 15° | 2658 | 2646 | 2652 |
| 20° | 2619 | 2603 | 2614 |
| 25° | 2555 | 2547 | 2549 |
| 30° | 2477 | 2463 | 2458 |
| 35° | 2372 | 2353 | 2332 |
| 40° | 2236 | 2207 | 2185 |
| 45° | 2077 | 2041 | 2002 |
| 50° | 1915 | 1865 | 1809 |
| 55° | 1741 | 1680 | 1628 |
| 60° | 1577 | 1494 | 1467 |
| 65° | 1443 | 1346 | 1355 |
| 70° | 1327 | 1250 | 1310 |
| 75° | 1289 | 1223 | 1335 |
| 80° | 1292 | 1260 | 1421 |
| 85° | 1420 | 1343 | 1566 |



TEST NUMBER: P219043

CATALOG NUMBER: 24GR-LD5-48-F1-UNV-L935-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 165.8 | 4.0 |
| 10°-20° | 470.5 | 11.5 |
| 20°-30° | 693.2 | 16.9 |
| 30°-40° | 784.0 | 19.1 |
| 40°-50° | 727.2 | 17.7 |
| 50°-60° | 565.0 | 13.8 |
| 60°-70° | 378.9 | 9.2 |
| 70°-80° | 227.0 | 5.5 |
| 80°-90° | 86.4 | 2.1 |
| 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° | 1329.5 | 32.4 |
| 0°-40° | 2113.4 | 51.6 |
| 0°-60° | 3405.6 | 83.1 |
| 0°-90° | 4097.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4097.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1754 | 1754 | 1754 | 1754 | 1754 | |
| 5° | 1752 | 1747 | 1744 | 1742 | 1749 | 166 |
| 15° | 1676 | 1669 | 1669 | 1665 | 1672 | 472 |
| 25° | 1512 | 1510 | 1507 | 1504 | 1508 | 696 |
| 35° | 1269 | 1264 | 1258 | 1251 | 1247 | 791 |
| 45° | 959 | 955 | 942 | 928 | 924 | 742 |
| 55° | 652 | 644 | 629 | 613 | 610 | 585 |
| 65° | 398 | 385 | 372 | 370 | 374 | 397 |
| 75° | 218 | 210 | 207 | 217 | 226 | 230 |
| 85° | 81 | 76 | 76 | 90 | 89 | 85 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P219043

CATALOG NUMBER: 24GR-LD5-48-F1-UNV-L935-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1754.5 | 1754.5 | 1754.5 | 1754.5 | 1754.5 |
| 2.5° | 1758.3 | 1752.6 | 1750.1 | 1748.8 | 1754.5 |
| 5° | 1752.0 | 1746.9 | 1743.8 | 1742.5 | 1748.8 |
| 7.5° | 1740.6 | 1734.9 | 1733.1 | 1730.5 | 1736.8 |
| 10° | 1723.5 | 1718.5 | 1716.0 | 1714.1 | 1722.3 |
| 12.5° | 1702.0 | 1697.6 | 1695.2 | 1693.9 | 1698.9 |
| 15° | 1676.2 | 1669.2 | 1668.6 | 1665.4 | 1672.4 |
| 17.5° | 1644.0 | 1637.6 | 1636.3 | 1635.1 | 1639.6 |
| 20° | 1606.7 | 1600.4 | 1597.2 | 1596.6 | 1603.5 |
| 22.5° | 1561.8 | 1557.4 | 1558.6 | 1554.9 | 1559.9 |
| 25° | 1511.9 | 1510.0 | 1506.9 | 1504.3 | 1508.1 |
| 27.5° | 1460.1 | 1453.8 | 1453.8 | 1448.7 | 1452.5 |
| 30° | 1400.7 | 1396.3 | 1392.5 | 1387.5 | 1390.0 |
| 32.5° | 1333.7 | 1331.9 | 1326.2 | 1321.1 | 1322.3 |
| 35° | 1268.6 | 1263.6 | 1258.5 | 1250.9 | 1247.2 |
| 37.5° | 1194.1 | 1189.1 | 1182.8 | 1172.0 | 1170.7 |
| 40° | 1118.3 | 1113.8 | 1103.7 | 1092.4 | 1093.0 |
| 42.5° | 1046.3 | 1039.3 | 1026.7 | 1011.5 | 1008.4 |
| 45° | 959.1 | 955.3 | 942.1 | 927.5 | 924.3 |
| 47.5° | 881.4 | 878.8 | 862.4 | 847.3 | 843.5 |
| 50° | 803.7 | 796.7 | 782.8 | 767.6 | 759.4 |
| 52.5° | 727.2 | 718.3 | 700.7 | 690.5 | 686.8 |
| 55° | 652.0 | 644.5 | 629.3 | 613.4 | 609.7 |
| 57.5° | 581.9 | 573.7 | 555.4 | 544.0 | 542.0 |
| 60° | 514.9 | 507.4 | 487.7 | 479.6 | 478.9 |
| 62.5° | 455.5 | 442.9 | 429.6 | 424.0 | 424.6 |
| 65° | 398.1 | 385.4 | 371.5 | 370.3 | 374.0 |
| 67.5° | 347.5 | 334.2 | 320.4 | 325.4 | 329.2 |
| 70° | 296.3 | 286.9 | 279.2 | 287.5 | 292.5 |
| 72.5° | 252.7 | 247.0 | 240.1 | 251.4 | 257.8 |
| 75° | 217.9 | 210.4 | 206.6 | 216.8 | 225.6 |
| 77.5° | 180.7 | 174.3 | 174.3 | 185.1 | 194.6 |
| 80° | 146.5 | 142.1 | 142.8 | 155.5 | 161.1 |
| 82.5° | 115.0 | 108.6 | 109.3 | 125.1 | 128.9 |
| 85° | 80.8 | 75.8 | 76.4 | 89.7 | 89.1 |
| 87.5° | 42.3 | 40.5 | 42.3 | 51.8 | 49.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)