

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: P476264

Luminaire Tested: **14GR-LD5-40-A19/156-UNV-L840-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P476264
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14GR-LD5-40-A19/156-UNV-L840-CD1-U
Description: GR 1'X4' LED TROFFER w/ A19/156 LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3845.9 lumens
Efficiency: N/A
Efficacy: 122.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.2
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

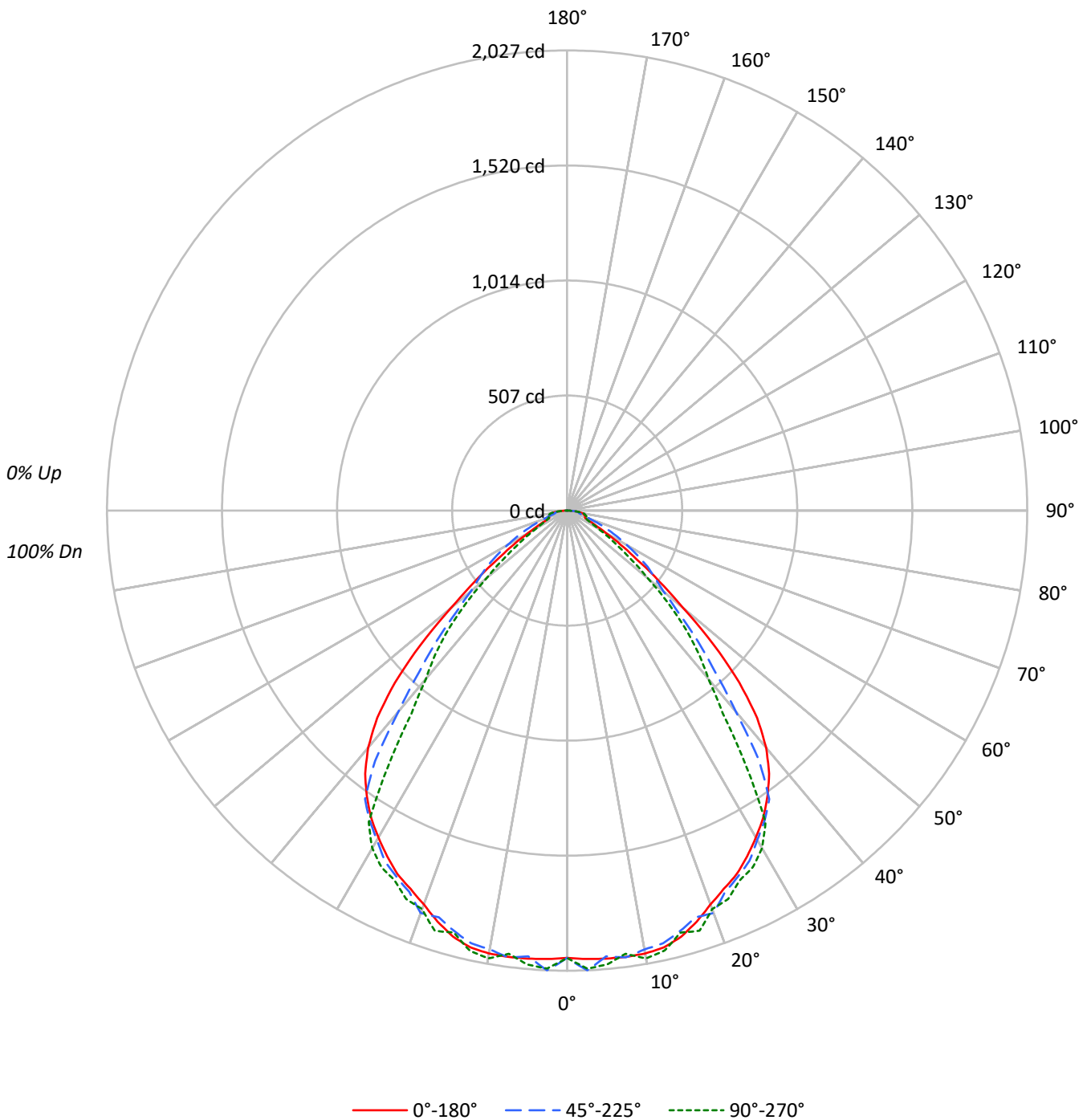
Input Watts (W): 31.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 |
| 2 | 103 | 96 | 91 | 86 | 101 | 94 | 89 | 85 | 91 | 87 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 78 |
| 3 | 96 | 87 | 80 | 75 | 93 | 85 | 79 | 74 | 82 | 77 | 73 | 80 | 75 | 71 | 77 | 74 | 70 | 68 |
| 4 | 89 | 79 | 71 | 65 | 87 | 77 | 70 | 65 | 75 | 69 | 64 | 73 | 68 | 63 | 71 | 66 | 63 | 61 |
| 5 | 83 | 71 | 64 | 58 | 81 | 70 | 63 | 58 | 68 | 62 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 54 |
| 6 | 77 | 65 | 58 | 52 | 75 | 64 | 57 | 52 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 55 | 50 | 49 |
| 7 | 72 | 60 | 52 | 47 | 70 | 59 | 52 | 47 | 58 | 51 | 46 | 56 | 50 | 46 | 55 | 50 | 46 | 44 |
| 8 | 67 | 55 | 48 | 42 | 66 | 55 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 |
| 9 | 63 | 51 | 44 | 39 | 62 | 51 | 43 | 39 | 49 | 43 | 38 | 48 | 43 | 38 | 48 | 42 | 38 | 36 |
| 10 | 60 | 47 | 40 | 35 | 58 | 47 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | 33 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 5304 | 5304 | 5304 |
| 5° | 5351 | 5324 | 5422 |
| 10° | 5413 | 5363 | 5473 |
| 15° | 5412 | 5345 | 5362 |
| 20° | 5286 | 5402 | 5350 |
| 25° | 5248 | 5284 | 5338 |
| 30° | 5167 | 5204 | 5336 |
| 35° | 5052 | 5099 | 4524 |
| 40° | 4788 | 4059 | 3401 |
| 45° | 4083 | 3095 | 2819 |
| 50° | 2789 | 2318 | 1947 |
| 55° | 1757 | 2031 | 1294 |
| 60° | 1062 | 1625 | 834 |
| 65° | 667 | 1256 | 641 |
| 70° | 666 | 840 | 681 |
| 75° | 837 | 670 | 880 |
| 80° | 1093 | 810 | 1155 |
| 85° | 1056 | 1118 | 1118 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 190.2 | 4.9 |
| 10°-20° | 545.0 | 14.2 |
| 20°-30° | 822.6 | 21.4 |
| 30°-40° | 917.4 | 23.9 |
| 40°-50° | 667.2 | 17.3 |
| 50°-60° | 365.9 | 9.5 |
| 60°-70° | 186.1 | 4.8 |
| 70°-80° | 109.4 | 2.8 |
| 80°-90° | 42.3 | 1.1 |
| 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° | 1557.7 | 40.5 |
| 0°-40° | 2475.2 | 64.4 |
| 0°-60° | 3508.2 | 91.2 |
| 0°-90° | 3845.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3845.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1971 | 1971 | 1971 | 1971 | 1971 | |
| 5° | 1981 | 2023 | 1971 | 2007 | 2007 | 189 |
| 15° | 1943 | 1935 | 1918 | 1959 | 1925 | 545 |
| 25° | 1768 | 1768 | 1780 | 1814 | 1798 | 813 |
| 35° | 1538 | 1536 | 1552 | 1447 | 1377 | 957 |
| 45° | 1073 | 990 | 813 | 755 | 741 | 806 |
| 55° | 374 | 463 | 433 | 386 | 276 | 353 |
| 65° | 105 | 224 | 197 | 203 | 101 | 117 |
| 75° | 80 | 143 | 64 | 129 | 85 | 84 |
| 85° | 34 | 44 | 36 | 46 | 36 | 38 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P476264

CATALOG NUMBER: 14GR-LD5-40-A19/156-UNV-L840-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1970.9 | 1970.9 | 1970.9 | 1970.9 | 1970.9 |
| 2.5° | 1976.9 | 2017.2 | 2027.2 | 2027.2 | 2019.2 |
| 5° | 1980.9 | 2023.2 | 1970.9 | 2007.1 | 2007.1 |
| 7.5° | 1982.9 | 1989.0 | 1985.0 | 1993.0 | 1968.8 |
| 10° | 1980.9 | 1966.8 | 1962.8 | 2013.1 | 2003.1 |
| 12.5° | 1970.9 | 1916.5 | 1952.7 | 1936.6 | 1985.0 |
| 15° | 1942.7 | 1934.6 | 1918.5 | 1958.8 | 1924.6 |
| 17.5° | 1898.4 | 1902.4 | 1878.3 | 1898.4 | 1940.7 |
| 20° | 1846.0 | 1864.2 | 1886.3 | 1892.4 | 1868.2 |
| 22.5° | 1803.8 | 1809.8 | 1817.9 | 1838.0 | 1852.1 |
| 25° | 1767.5 | 1767.5 | 1779.6 | 1813.8 | 1797.7 |
| 27.5° | 1717.2 | 1721.2 | 1739.4 | 1749.4 | 1771.6 |
| 30° | 1662.9 | 1666.9 | 1674.9 | 1721.2 | 1717.2 |
| 32.5° | 1606.5 | 1610.5 | 1618.6 | 1648.8 | 1626.6 |
| 35° | 1538.0 | 1536.0 | 1552.1 | 1447.4 | 1377.0 |
| 37.5° | 1461.5 | 1459.5 | 1389.1 | 1191.8 | 1125.3 |
| 40° | 1362.9 | 1354.8 | 1155.5 | 1000.5 | 968.3 |
| 42.5° | 1238.1 | 1203.9 | 966.3 | 875.7 | 859.6 |
| 45° | 1073.0 | 990.5 | 813.3 | 754.9 | 740.8 |
| 47.5° | 877.7 | 815.3 | 662.3 | 636.2 | 601.9 |
| 50° | 666.3 | 670.4 | 553.6 | 535.5 | 465.0 |
| 52.5° | 509.3 | 557.6 | 487.2 | 453.0 | 360.4 |
| 55° | 374.4 | 463.0 | 432.8 | 386.5 | 275.8 |
| 57.5° | 277.8 | 384.5 | 366.4 | 332.2 | 211.4 |
| 60° | 197.3 | 320.1 | 302.0 | 285.9 | 155.0 |
| 62.5° | 142.9 | 267.7 | 247.6 | 241.6 | 118.8 |
| 65° | 104.7 | 223.5 | 197.3 | 203.3 | 100.7 |
| 67.5° | 84.6 | 187.2 | 149.0 | 177.2 | 86.6 |
| 70° | 84.6 | 167.1 | 106.7 | 157.0 | 86.6 |
| 72.5° | 84.6 | 157.0 | 84.6 | 142.9 | 90.6 |
| 75° | 80.5 | 142.9 | 64.4 | 128.8 | 84.6 |
| 77.5° | 74.5 | 116.8 | 54.4 | 110.7 | 80.5 |
| 80° | 70.5 | 86.6 | 52.3 | 86.6 | 74.5 |
| 82.5° | 54.4 | 60.4 | 48.3 | 64.4 | 58.4 |
| 85° | 34.2 | 44.3 | 36.2 | 46.3 | 36.2 |
| 87.5° | 16.1 | 24.2 | 16.1 | 24.2 | 16.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)