

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: P291518

Luminaire Tested: **14GR-LD5-36-A19/156-UNV-L92765-W2A1-U-6500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P291518
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33288)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14GR-LD5-36-A19/156-UNV-L92765-W2A1-U-6500K
Description: GRLED 1x4 TUNABLE WHITE TROFFER
WITH A19/156 LENS
Light Source: (168) 90 CRI LEDS TUNED TO 6500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3373.0 lumens
Efficiency: N/A
Efficacy: 109.9 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.23 / 1.18
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

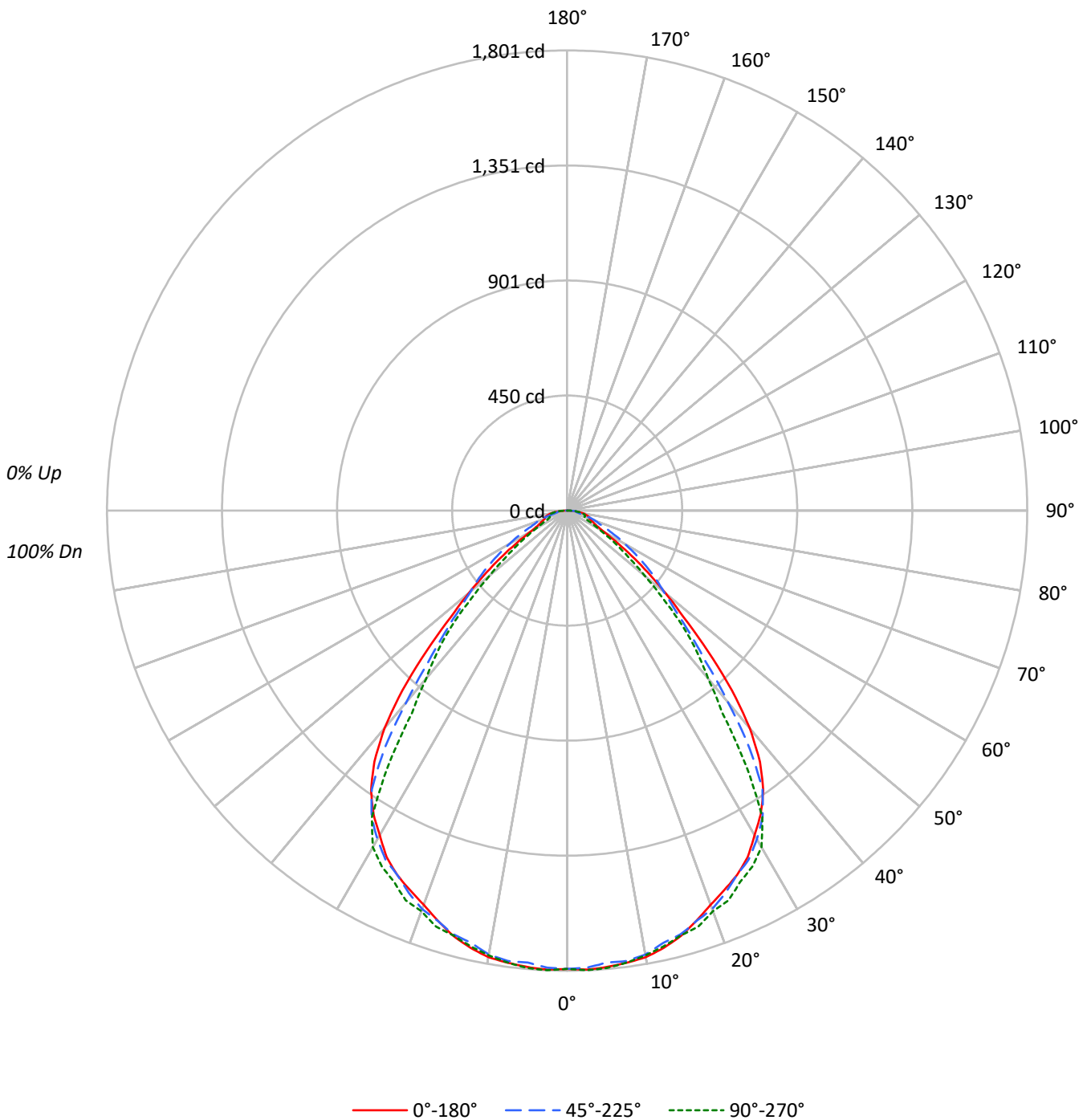
Input Watts (W): 30.69
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P291518

CATALOG NUMBER: 14GR-LD5-36-A19/156-UNV-L92765-W2A1-U-6500K

Luminous Intensity Polar Plot





TEST NUMBER: P291518

CATALOG NUMBER: 14GR-LD5-36-A19/156-UNV-L92765-W2A1-U-6500K

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 | 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 | | | | | 100 | | | |
| 1 | 111 | 107 | 104 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | 88 | | | |
| 2 | 103 | 96 | 90 | 86 | 100 | 94 | 89 | 85 | 91 | 87 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 77 | | | | | 77 | | | |
| 3 | 95 | 87 | 80 | 74 | 93 | 85 | 79 | 74 | 82 | 77 | 73 | 80 | 75 | 71 | 77 | 73 | 70 | 68 | | | | | 68 | | | |
| 4 | 89 | 79 | 71 | 65 | 87 | 77 | 70 | 65 | 75 | 69 | 64 | 73 | 68 | 63 | 71 | 66 | 63 | 61 | | | | | 61 | | | |
| 5 | 83 | 71 | 64 | 58 | 81 | 70 | 63 | 58 | 68 | 62 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 54 | | | | | 54 | | | |
| 6 | 77 | 65 | 58 | 52 | 75 | 64 | 57 | 52 | 63 | 56 | 51 | 61 | 55 | 51 | 60 | 55 | 51 | 49 | | | | | 49 | | | |
| 7 | 72 | 60 | 52 | 47 | 70 | 59 | 52 | 47 | 58 | 51 | 46 | 56 | 51 | 46 | 55 | 50 | 46 | 44 | | | | | 44 | | | |
| 8 | 67 | 55 | 48 | 43 | 66 | 55 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 | | | | | 40 | | | |
| 9 | 63 | 51 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 38 | 48 | 42 | 38 | 37 | | | | | 37 | | | |
| 10 | 60 | 48 | 40 | 36 | 58 | 47 | 40 | 36 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | 34 | | | | | 34 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 4827 | 4827 | 4827 |
| 5° | 4843 | 4797 | 4853 |
| 10° | 4850 | 4821 | 4829 |
| 15° | 4801 | 4784 | 4795 |
| 20° | 4701 | 4752 | 4778 |
| 25° | 4672 | 4670 | 4759 |
| 30° | 4558 | 4614 | 4726 |
| 35° | 4396 | 4378 | 4023 |
| 40° | 3903 | 3445 | 3016 |
| 45° | 2962 | 2577 | 2439 |
| 50° | 2101 | 2062 | 1655 |
| 55° | 1438 | 1760 | 1137 |
| 60° | 889 | 1405 | 760 |
| 65° | 732 | 1082 | 551 |
| 70° | 729 | 942 | 565 |
| 75° | 875 | 675 | 755 |
| 80° | 1006 | 623 | 945 |
| 85° | 954 | 1096 | 1071 |



TEST NUMBER: P291518

CATALOG NUMBER: 14GR-LD5-36-A19/156-UNV-L92765-W2A1-U-6500K

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 170.2 | 5.0 |
| 10°-20° | 485.7 | 14.4 |
| 20°-30° | 730.5 | 21.7 |
| 30°-40° | 796.3 | 23.6 |
| 40°-50° | 557.6 | 16.5 |
| 50°-60° | 315.6 | 9.4 |
| 60°-70° | 172.7 | 5.1 |
| 70°-80° | 104.7 | 3.1 |
| 80°-90° | 39.7 | 1.2 |
| 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° | 1386.4 | 41.1 |
| 0°-40° | 2182.7 | 64.7 |
| 0°-60° | 3055.9 | 90.6 |
| 0°-90° | 3373.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3373.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1794 | 1794 | 1794 | 1794 | 1794 | |
| 5° | 1793 | 1790 | 1776 | 1797 | 1797 | 171 |
| 15° | 1723 | 1719 | 1717 | 1742 | 1721 | 485 |
| 25° | 1574 | 1577 | 1573 | 1609 | 1603 | 723 |
| 35° | 1338 | 1332 | 1333 | 1265 | 1225 | 824 |
| 45° | 778 | 812 | 677 | 669 | 641 | 604 |
| 55° | 306 | 367 | 375 | 372 | 242 | 280 |
| 65° | 115 | 189 | 170 | 215 | 86 | 118 |
| 75° | 84 | 121 | 65 | 127 | 73 | 87 |
| 85° | 31 | 50 | 36 | 43 | 35 | 34 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P291518

CATALOG NUMBER: 14GR-LD5-36-A19/156-UNV-L92765-W2A1-U-6500K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1793.6 | 1793.6 | 1793.6 | 1793.6 | 1793.6 |
| 2.5° | 1798.3 | 1795.9 | 1790.5 | 1801.4 | 1800.6 |
| 5° | 1792.9 | 1789.8 | 1775.9 | 1796.7 | 1796.7 |
| 7.5° | 1785.1 | 1777.4 | 1778.2 | 1789.8 | 1784.4 |
| 10° | 1775.1 | 1762.0 | 1764.3 | 1767.4 | 1767.4 |
| 12.5° | 1751.9 | 1739.6 | 1733.4 | 1743.4 | 1746.5 |
| 15° | 1723.4 | 1718.7 | 1717.2 | 1741.9 | 1721.1 |
| 17.5° | 1683.2 | 1693.3 | 1684.0 | 1704.1 | 1707.2 |
| 20° | 1641.5 | 1660.8 | 1659.3 | 1673.2 | 1668.5 |
| 22.5° | 1607.5 | 1619.9 | 1619.9 | 1636.9 | 1650.8 |
| 25° | 1573.6 | 1576.7 | 1572.8 | 1609.1 | 1602.9 |
| 27.5° | 1529.6 | 1527.2 | 1539.6 | 1558.1 | 1570.5 |
| 30° | 1467.0 | 1467.8 | 1484.8 | 1509.5 | 1521.1 |
| 32.5° | 1409.9 | 1402.9 | 1423.8 | 1434.6 | 1422.2 |
| 35° | 1338.1 | 1331.9 | 1332.7 | 1264.7 | 1224.6 |
| 37.5° | 1240.0 | 1245.4 | 1174.4 | 1050.1 | 997.6 |
| 40° | 1111.1 | 1121.9 | 980.6 | 887.9 | 858.6 |
| 42.5° | 955.1 | 958.2 | 803.8 | 773.7 | 754.4 |
| 45° | 778.3 | 812.3 | 677.1 | 668.7 | 640.9 |
| 47.5° | 616.9 | 680.2 | 567.5 | 572.9 | 506.5 |
| 50° | 501.9 | 565.2 | 492.6 | 494.9 | 395.3 |
| 52.5° | 396.9 | 458.6 | 434.7 | 427.8 | 310.4 |
| 55° | 306.5 | 366.8 | 375.2 | 372.2 | 242.4 |
| 57.5° | 225.5 | 290.3 | 315.0 | 326.6 | 186.9 |
| 60° | 165.2 | 237.0 | 261.0 | 284.1 | 141.3 |
| 62.5° | 131.3 | 205.4 | 213.9 | 247.8 | 109.6 |
| 65° | 115.0 | 189.2 | 169.9 | 214.6 | 86.5 |
| 67.5° | 102.7 | 179.9 | 138.2 | 189.9 | 75.7 |
| 70° | 92.7 | 162.1 | 119.7 | 169.9 | 71.8 |
| 72.5° | 92.7 | 142.1 | 94.2 | 150.6 | 72.6 |
| 75° | 84.2 | 121.2 | 64.9 | 127.4 | 72.6 |
| 77.5° | 74.9 | 103.5 | 48.6 | 103.5 | 67.9 |
| 80° | 64.9 | 81.1 | 40.2 | 79.5 | 61.0 |
| 82.5° | 47.9 | 61.0 | 34.7 | 59.5 | 49.4 |
| 85° | 30.9 | 50.2 | 35.5 | 43.2 | 34.7 |
| 87.5° | 14.7 | 25.5 | 22.4 | 21.6 | 17.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)