

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: P292818

Luminaire Tested: **22GR-LD5-24-FGW080-UNV-L93050-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P292818
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-26)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22GR-LD5-24-FGW080-UNV-L93050-W2A1-U-4000K
Description: GRLED 2x2 TUNABLE WHITE TROFFER
WITH FGW080 LENS
Light Source: (168) 90 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1871.0 lumens
Efficiency: N/A
Efficacy: 100.6 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.24 / 1.36
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

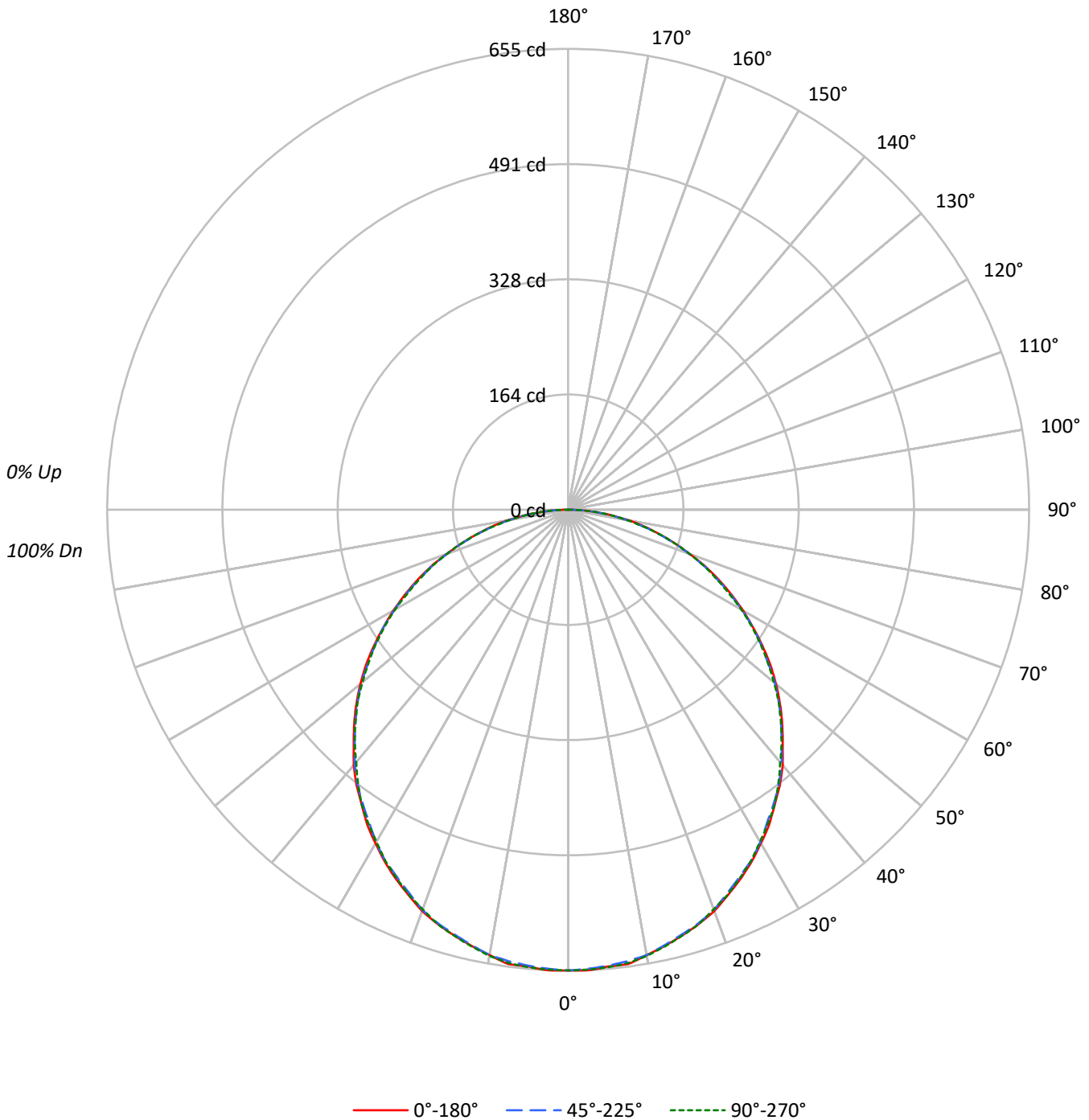
Input Watts (W): 18.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 85 | 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° | 1762 | 1762 | 1762 |
| 5° | 1760 | 1757 | 1763 |
| 10° | 1756 | 1756 | 1759 |
| 15° | 1745 | 1740 | 1746 |
| 20° | 1739 | 1734 | 1731 |
| 25° | 1719 | 1710 | 1714 |
| 30° | 1702 | 1697 | 1693 |
| 35° | 1680 | 1673 | 1680 |
| 40° | 1665 | 1658 | 1646 |
| 45° | 1637 | 1627 | 1627 |
| 50° | 1615 | 1605 | 1596 |
| 55° | 1580 | 1570 | 1567 |
| 60° | 1544 | 1534 | 1528 |
| 65° | 1504 | 1487 | 1480 |
| 70° | 1444 | 1439 | 1444 |
| 75° | 1394 | 1377 | 1388 |
| 80° | 1379 | 1311 | 1303 |
| 85° | 1223 | 1189 | 1204 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 61.9 | 3.3 |
| 10°-20° | 176.8 | 9.4 |
| 20°-30° | 266.2 | 14.2 |
| 30°-40° | 319.4 | 17.1 |
| 40°-50° | 330.5 | 17.7 |
| 50°-60° | 299.5 | 16.0 |
| 60°-70° | 232.1 | 12.4 |
| 70°-80° | 140.9 | 7.5 |
| 80°-90° | 43.6 | 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° | 504.9 | 27.0 |
| 0°-40° | 824.3 | 44.1 |
| 0°-60° | 1454.3 | 77.7 |
| 0°-90° | 1871.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1871.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 655 | 655 | 655 | 655 | 655 | |
| 5° | 652 | 652 | 650 | 652 | 653 | 62 |
| 15° | 626 | 626 | 625 | 627 | 627 | 177 |
| 25° | 579 | 578 | 576 | 578 | 577 | 267 |
| 35° | 512 | 512 | 509 | 510 | 512 | 321 |
| 45° | 430 | 430 | 427 | 427 | 427 | 332 |
| 55° | 337 | 336 | 335 | 334 | 334 | 301 |
| 65° | 236 | 236 | 234 | 235 | 232 | 234 |
| 75° | 134 | 134 | 132 | 132 | 134 | 143 |
| 85° | 40 | 39 | 38 | 38 | 39 | 45 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 654.9 | 654.9 | 654.9 | 654.9 | 654.9 |
| 2.5° | 655.4 | 652.7 | 653.2 | 654.3 | 654.3 |
| 5° | 651.6 | 651.6 | 650.5 | 652.1 | 652.7 |
| 7.5° | 651.6 | 648.8 | 647.2 | 648.8 | 649.9 |
| 10° | 642.8 | 641.7 | 642.8 | 642.2 | 643.9 |
| 12.5° | 635.1 | 634.0 | 634.0 | 635.6 | 635.6 |
| 15° | 626.3 | 626.3 | 624.7 | 627.4 | 626.8 |
| 17.5° | 617.5 | 617.5 | 616.4 | 616.4 | 617.5 |
| 20° | 607.1 | 604.3 | 605.4 | 604.9 | 604.3 |
| 22.5° | 592.8 | 591.1 | 590.0 | 591.7 | 592.2 |
| 25° | 579.1 | 578.0 | 575.8 | 578.0 | 577.4 |
| 27.5° | 564.2 | 563.1 | 562.6 | 561.5 | 562.6 |
| 30° | 547.7 | 546.6 | 546.1 | 545.0 | 545.0 |
| 32.5° | 531.3 | 529.1 | 526.3 | 529.1 | 528.5 |
| 35° | 511.5 | 511.5 | 509.3 | 509.8 | 511.5 |
| 37.5° | 493.9 | 492.8 | 491.7 | 490.1 | 490.6 |
| 40° | 474.1 | 472.5 | 471.9 | 470.8 | 468.6 |
| 42.5° | 451.0 | 451.0 | 448.8 | 449.4 | 448.8 |
| 45° | 430.2 | 429.6 | 427.4 | 427.4 | 427.4 |
| 47.5° | 408.2 | 407.6 | 406.0 | 404.9 | 406.0 |
| 50° | 385.7 | 383.5 | 383.5 | 381.8 | 381.3 |
| 52.5° | 362.0 | 360.4 | 358.2 | 358.7 | 357.6 |
| 55° | 336.8 | 336.2 | 334.6 | 334.0 | 334.0 |
| 57.5° | 311.5 | 312.1 | 311.0 | 308.8 | 309.3 |
| 60° | 286.8 | 286.2 | 285.1 | 284.0 | 284.0 |
| 62.5° | 261.5 | 261.5 | 259.3 | 259.3 | 257.1 |
| 65° | 236.2 | 236.2 | 233.5 | 234.6 | 232.4 |
| 67.5° | 211.0 | 210.4 | 208.8 | 208.2 | 208.8 |
| 70° | 183.5 | 184.0 | 182.9 | 182.9 | 183.5 |
| 72.5° | 158.8 | 158.2 | 157.7 | 157.7 | 158.8 |
| 75° | 134.1 | 133.5 | 132.4 | 132.4 | 133.5 |
| 77.5° | 111.5 | 108.8 | 108.2 | 109.3 | 107.7 |
| 80° | 89.0 | 85.2 | 84.6 | 84.1 | 84.1 |
| 82.5° | 62.6 | 61.0 | 61.5 | 61.0 | 62.1 |
| 85° | 39.6 | 39.0 | 38.5 | 38.5 | 39.0 |
| 87.5° | 18.7 | 17.6 | 17.6 | 17.0 | 17.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)