

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: P475881

Luminaire Tested: **22GR-LD5-20-F1-UNV-L830-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475881
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22GR-LD5-20-F1-UNV-L830-CD1-U
Description: GR 2'X2' LED TROFFER w/ F1 LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1972.8 lumens
Efficiency: N/A
Efficacy: 130.6 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

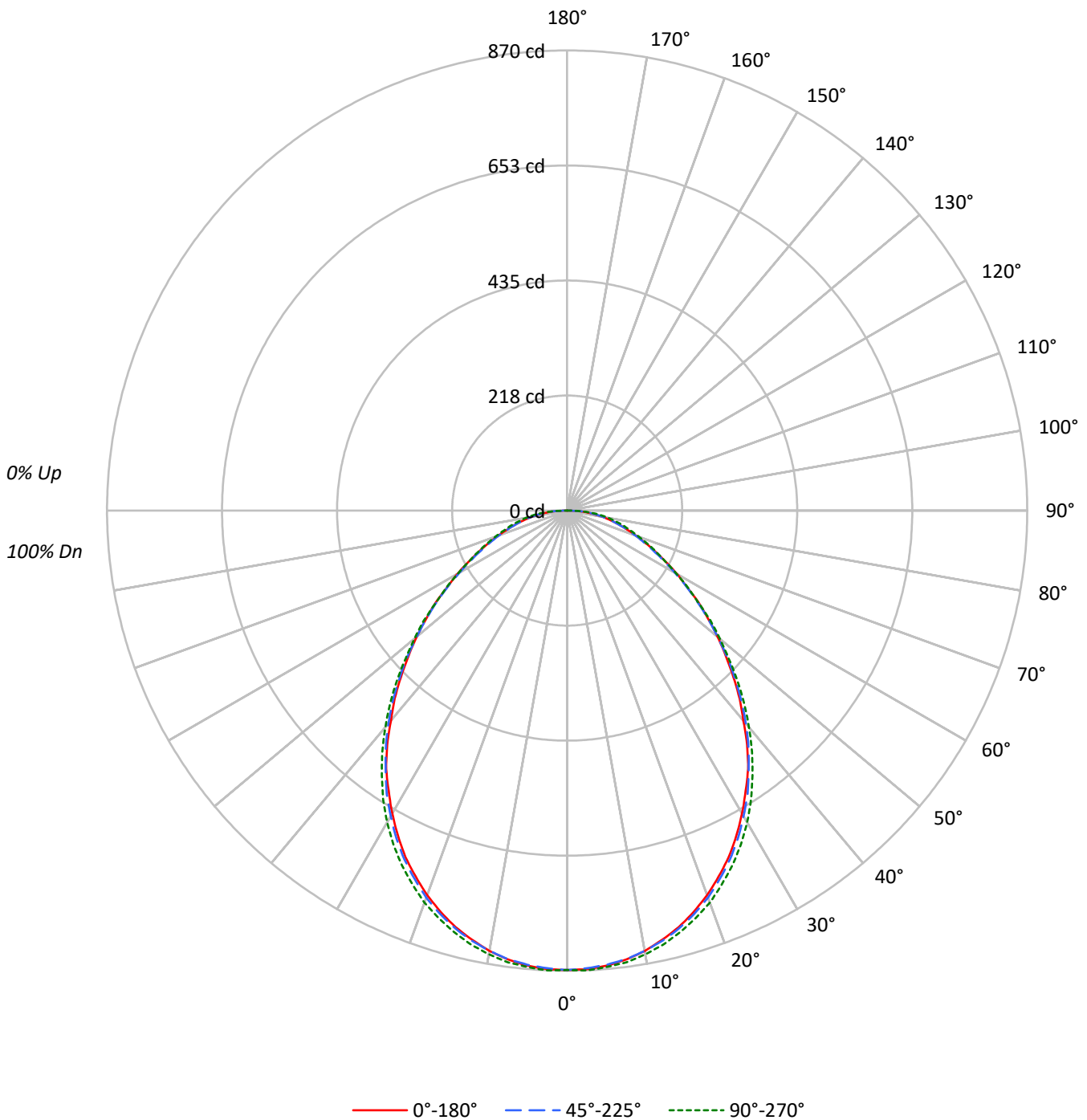
Input Watts (W): 15.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 109 | 105 | 101 | 97 | 107 | 103 | 99 | 96 | 98 | 95 | 93 | 94 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 86 | 81 | 98 | 91 | 85 | 80 | 87 | 82 | 78 | 84 | 80 | 76 | 81 | 77 | 74 | 72 |
| 3 | 92 | 82 | 74 | 68 | 90 | 80 | 73 | 68 | 78 | 71 | 66 | 75 | 70 | 65 | 72 | 68 | 64 | 62 |
| 4 | 85 | 73 | 65 | 59 | 82 | 72 | 64 | 58 | 70 | 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 | 73 | 60 | 51 | 45 | 71 | 59 | 51 | 45 | 57 | 50 | 45 | 56 | 49 | 44 | 54 | 48 | 44 | 42 |
| 7 | 68 | 55 | 46 | 40 | 66 | 54 | 46 | 40 | 52 | 45 | 40 | 51 | 44 | 40 | 50 | 44 | 39 | 37 |
| 8 | 63 | 50 | 42 | 36 | 62 | 49 | 42 | 36 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 36 | 34 |
| 9 | 59 | 46 | 38 | 33 | 58 | 46 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 32 | 42 | 37 | 32 | 31 |
| 10 | 55 | 43 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 30 | 39 | 34 | 30 | 28 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2337 | 2337 | 2337 |
| 5° | 2333 | 2328 | 2340 |
| 10° | 2310 | 2310 | 2328 |
| 15° | 2271 | 2278 | 2299 |
| 20° | 2216 | 2230 | 2259 |
| 25° | 2147 | 2162 | 2196 |
| 30° | 2055 | 2073 | 2115 |
| 35° | 1960 | 1965 | 2006 |
| 40° | 1821 | 1847 | 1879 |
| 45° | 1691 | 1706 | 1732 |
| 50° | 1554 | 1554 | 1578 |
| 55° | 1425 | 1409 | 1417 |
| 60° | 1290 | 1267 | 1285 |
| 65° | 1176 | 1149 | 1187 |
| 70° | 1087 | 1080 | 1132 |
| 75° | 1047 | 1038 | 1142 |
| 80° | 1057 | 1057 | 1212 |
| 85° | 1105 | 1155 | 1386 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 81.9 | 4.2 |
| 10°-20° | 230.6 | 11.7 |
| 20°-30° | 335.2 | 17.0 |
| 30°-40° | 375.2 | 19.0 |
| 40°-50° | 346.3 | 17.6 |
| 50°-60° | 270.3 | 13.7 |
| 60°-70° | 182.9 | 9.3 |
| 70°-80° | 109.2 | 5.5 |
| 80°-90° | 41.0 | 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° | 647.7 | 32.8 |
| 0°-40° | 1022.9 | 51.9 |
| 0°-60° | 1639.6 | 83.1 |
| 0°-90° | 1972.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1972.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 869 | 869 | 869 | 869 | 869 | |
| 5° | 864 | 862 | 862 | 865 | 866 | 82 |
| 15° | 815 | 815 | 818 | 823 | 825 | 229 |
| 25° | 723 | 723 | 728 | 736 | 740 | 332 |
| 35° | 596 | 596 | 598 | 607 | 611 | 371 |
| 45° | 444 | 447 | 448 | 452 | 455 | 343 |
| 55° | 304 | 301 | 300 | 302 | 302 | 271 |
| 65° | 185 | 183 | 180 | 184 | 186 | 184 |
| 75° | 101 | 100 | 100 | 106 | 110 | 107 |
| 85° | 36 | 35 | 37 | 43 | 45 | 38 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475881

CATALOG NUMBER: 22GR-LD5-20-F1-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 868.6 | 868.6 | 868.6 | 868.6 | 868.6 |
| 2.5° | 867.7 | 866.1 | 866.1 | 868.6 | 870.2 |
| 5° | 863.6 | 861.9 | 861.9 | 865.2 | 866.1 |
| 7.5° | 856.1 | 855.3 | 855.3 | 858.6 | 861.1 |
| 10° | 845.3 | 844.4 | 845.3 | 848.6 | 851.9 |
| 12.5° | 831.1 | 831.1 | 832.8 | 837.0 | 840.3 |
| 15° | 815.3 | 815.3 | 817.8 | 822.8 | 825.3 |
| 17.5° | 795.4 | 796.2 | 799.5 | 805.3 | 807.8 |
| 20° | 773.7 | 775.4 | 778.7 | 783.7 | 788.7 |
| 22.5° | 748.8 | 750.4 | 753.8 | 761.2 | 764.6 |
| 25° | 723.0 | 723.0 | 728.0 | 735.5 | 739.6 |
| 27.5° | 693.0 | 693.9 | 698.9 | 707.2 | 711.3 |
| 30° | 661.4 | 663.9 | 667.2 | 674.7 | 680.5 |
| 32.5° | 628.1 | 630.6 | 634.8 | 643.1 | 647.3 |
| 35° | 596.5 | 595.7 | 598.2 | 607.3 | 610.7 |
| 37.5° | 559.1 | 559.9 | 563.2 | 569.9 | 574.1 |
| 40° | 518.3 | 522.5 | 525.8 | 530.8 | 535.0 |
| 42.5° | 482.5 | 485.0 | 487.5 | 492.5 | 495.9 |
| 45° | 444.3 | 446.8 | 448.4 | 451.8 | 455.1 |
| 47.5° | 406.8 | 407.7 | 410.2 | 411.8 | 414.3 |
| 50° | 371.1 | 371.9 | 371.1 | 373.6 | 376.9 |
| 52.5° | 336.1 | 335.3 | 335.3 | 336.1 | 341.1 |
| 55° | 303.7 | 301.2 | 300.3 | 302.0 | 302.0 |
| 57.5° | 267.9 | 267.1 | 267.1 | 266.2 | 270.4 |
| 60° | 239.6 | 237.1 | 235.4 | 237.1 | 238.8 |
| 62.5° | 210.5 | 208.0 | 206.3 | 209.7 | 209.7 |
| 65° | 184.7 | 183.0 | 180.5 | 183.9 | 186.4 |
| 67.5° | 159.7 | 158.1 | 157.2 | 161.4 | 164.7 |
| 70° | 138.1 | 137.3 | 137.3 | 141.4 | 143.9 |
| 72.5° | 118.1 | 117.3 | 117.3 | 123.1 | 125.6 |
| 75° | 100.7 | 99.8 | 99.8 | 105.7 | 109.8 |
| 77.5° | 83.2 | 82.4 | 84.9 | 89.9 | 94.0 |
| 80° | 68.2 | 67.4 | 68.2 | 74.9 | 78.2 |
| 82.5° | 51.6 | 51.6 | 53.2 | 59.9 | 63.2 |
| 85° | 35.8 | 34.9 | 37.4 | 43.3 | 44.9 |
| 87.5° | 18.3 | 19.1 | 20.0 | 23.3 | 23.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)