

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: P475577

Luminaire Tested: **24GR-LD5-120-F1-UNV-L850-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475577
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24GR-LD5-120-F1-UNV-L850-CD1-U
Description: GR 2'X4' LED TROFFER w/ F1 LENS
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12261.0 lumens
Efficiency: N/A
Efficacy: 150.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.24 / 1.34
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

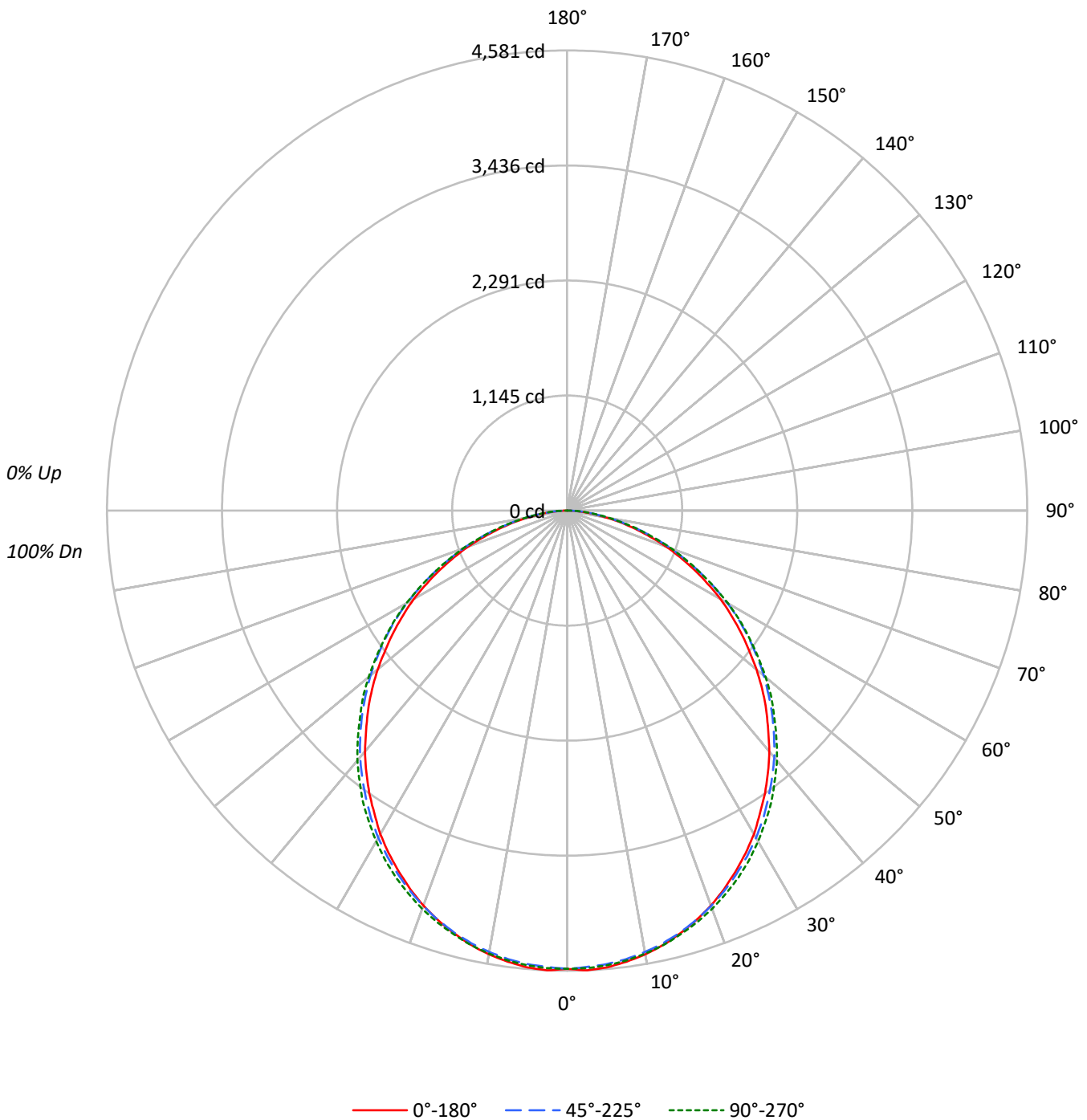
Input Watts (W): 81.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 104 | 100 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 82 | 78 | 74 | 79 | 76 | 73 | 70 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 67 | 63 | 70 | 66 | 62 | 60 |
| 4 | 83 | 71 | 62 | 56 | 81 | 70 | 62 | 55 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 51 |
| 5 | 76 | 64 | 55 | 48 | 74 | 63 | 54 | 48 | 60 | 53 | 47 | 58 | 52 | 47 | 57 | 51 | 46 | 44 |
| 6 | 71 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 55 | 47 | 42 | 53 | 46 | 41 | 51 | 45 | 41 | 39 |
| 7 | 65 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 36 | 34 |
| 8 | 61 | 48 | 39 | 33 | 59 | 47 | 39 | 33 | 46 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 35 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 30 | 40 | 34 | 29 | 28 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 27 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 6138 | 6138 | 6138 |
| 5° | 6165 | 6121 | 6137 |
| 10° | 6130 | 6097 | 6118 |
| 15° | 6068 | 6057 | 6083 |
| 20° | 5992 | 5998 | 6040 |
| 25° | 5886 | 5925 | 5986 |
| 30° | 5778 | 5842 | 5907 |
| 35° | 5641 | 5736 | 5822 |
| 40° | 5498 | 5635 | 5707 |
| 45° | 5333 | 5496 | 5553 |
| 50° | 5152 | 5351 | 5399 |
| 55° | 4950 | 5170 | 5199 |
| 60° | 4747 | 4957 | 4977 |
| 65° | 4449 | 4659 | 4648 |
| 70° | 4120 | 4309 | 4352 |
| 75° | 3650 | 3863 | 3888 |
| 80° | 3037 | 3261 | 3336 |
| 85° | 2302 | 2524 | 2841 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 431.2 | 3.5 |
| 10°-20° | 1227.6 | 10.0 |
| 20°-30° | 1839.3 | 15.0 |
| 30°-40° | 2182.2 | 17.8 |
| 40°-50° | 2216.2 | 18.1 |
| 50°-60° | 1951.7 | 15.9 |
| 60°-70° | 1434.1 | 11.7 |
| 70°-80° | 780.0 | 6.4 |
| 80°-90° | 198.7 | 1.6 |
| 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° | 3498.0 | 28.5 |
| 0°-40° | 5680.2 | 46.3 |
| 0°-60° | 9848.2 | 80.3 |
| 0°-90° | 12261.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 12261.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 4562 | 4562 | 4562 | 4562 | 4562 | |
| 5° | 4564 | 4545 | 4532 | 4532 | 4544 | 433 |
| 15° | 4356 | 4348 | 4348 | 4354 | 4367 | 1228 |
| 25° | 3964 | 3969 | 3991 | 4014 | 4032 | 1827 |
| 35° | 3434 | 3453 | 3492 | 3527 | 3545 | 2147 |
| 45° | 2803 | 2826 | 2888 | 2922 | 2918 | 2160 |
| 55° | 2110 | 2140 | 2204 | 2224 | 2216 | 1887 |
| 65° | 1397 | 1420 | 1463 | 1474 | 1460 | 1385 |
| 75° | 702 | 717 | 743 | 746 | 748 | 747 |
| 85° | 149 | 153 | 164 | 178 | 184 | 181 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P475577

CATALOG NUMBER: 24GR-LD5-120-F1-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 4562.1 | 4562.1 | 4562.1 | 4562.1 | 4562.1 |
| 2.5° | 4581.3 | 4563.3 | 4547.7 | 4547.7 | 4558.5 |
| 5° | 4564.5 | 4545.3 | 4532.0 | 4532.0 | 4544.1 |
| 7.5° | 4529.6 | 4514.0 | 4503.2 | 4503.2 | 4516.4 |
| 10° | 4486.4 | 4470.7 | 4462.3 | 4463.5 | 4477.9 |
| 12.5° | 4428.6 | 4414.2 | 4410.6 | 4413.0 | 4431.0 |
| 15° | 4356.5 | 4348.1 | 4348.1 | 4354.1 | 4367.3 |
| 17.5° | 4275.9 | 4267.5 | 4273.5 | 4281.9 | 4298.8 |
| 20° | 4184.5 | 4178.5 | 4189.3 | 4202.6 | 4218.2 |
| 22.5° | 4079.9 | 4077.5 | 4095.6 | 4113.6 | 4129.2 |
| 25° | 3964.5 | 3969.3 | 3990.9 | 4013.8 | 4031.8 |
| 27.5° | 3845.4 | 3850.3 | 3880.3 | 3904.4 | 3922.4 |
| 30° | 3719.2 | 3721.6 | 3760.1 | 3788.9 | 3802.2 |
| 32.5° | 3572.5 | 3591.7 | 3632.6 | 3660.3 | 3672.3 |
| 35° | 3434.2 | 3453.4 | 3491.9 | 3526.8 | 3544.8 |
| 37.5° | 3283.9 | 3300.7 | 3351.2 | 3388.5 | 3394.5 |
| 40° | 3130.0 | 3145.6 | 3208.1 | 3239.4 | 3249.0 |
| 42.5° | 2961.6 | 2991.7 | 3048.2 | 3079.5 | 3085.5 |
| 45° | 2802.9 | 2825.8 | 2888.3 | 2922.0 | 2918.4 |
| 47.5° | 2633.4 | 2658.6 | 2720.0 | 2752.4 | 2758.4 |
| 50° | 2461.4 | 2490.3 | 2556.4 | 2578.1 | 2579.3 |
| 52.5° | 2281.1 | 2318.3 | 2378.5 | 2407.3 | 2397.7 |
| 55° | 2110.3 | 2140.4 | 2204.1 | 2224.5 | 2216.1 |
| 57.5° | 1934.7 | 1968.4 | 2027.3 | 2038.2 | 2039.4 |
| 60° | 1764.0 | 1791.7 | 1842.2 | 1853.0 | 1849.4 |
| 62.5° | 1576.4 | 1604.1 | 1649.8 | 1660.6 | 1652.2 |
| 65° | 1397.3 | 1420.1 | 1463.4 | 1474.2 | 1459.8 |
| 67.5° | 1219.3 | 1242.1 | 1275.8 | 1292.6 | 1277.0 |
| 70° | 1047.3 | 1065.4 | 1095.4 | 1105.1 | 1106.3 |
| 72.5° | 864.6 | 897.0 | 918.7 | 917.5 | 913.9 |
| 75° | 702.2 | 716.7 | 743.1 | 745.5 | 747.9 |
| 77.5° | 547.1 | 550.7 | 578.4 | 585.6 | 580.8 |
| 80° | 392.0 | 405.2 | 420.9 | 429.3 | 430.5 |
| 82.5° | 258.5 | 268.1 | 281.4 | 295.8 | 295.8 |
| 85° | 149.1 | 152.7 | 163.5 | 178.0 | 184.0 |
| 87.5° | 60.1 | 66.1 | 77.0 | 87.8 | 89.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)