

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: P296384

Luminaire Tested: **22RLN-LD5-31-UNV-L83050-W2A1-U-3500K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P296384
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-085-11)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22RLN-LD5-31-UNV-L83050-W2A1-U-3500K
Description: RLN LED 2x2 TUNABLE WHITE TROFFER
WITH STANDARD LENS
Light Source: (252) 80 CRI LEDS TUNED TO 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3145.0 lumens
Efficiency: N/A
Efficacy: 128.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.23 / 1.3
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

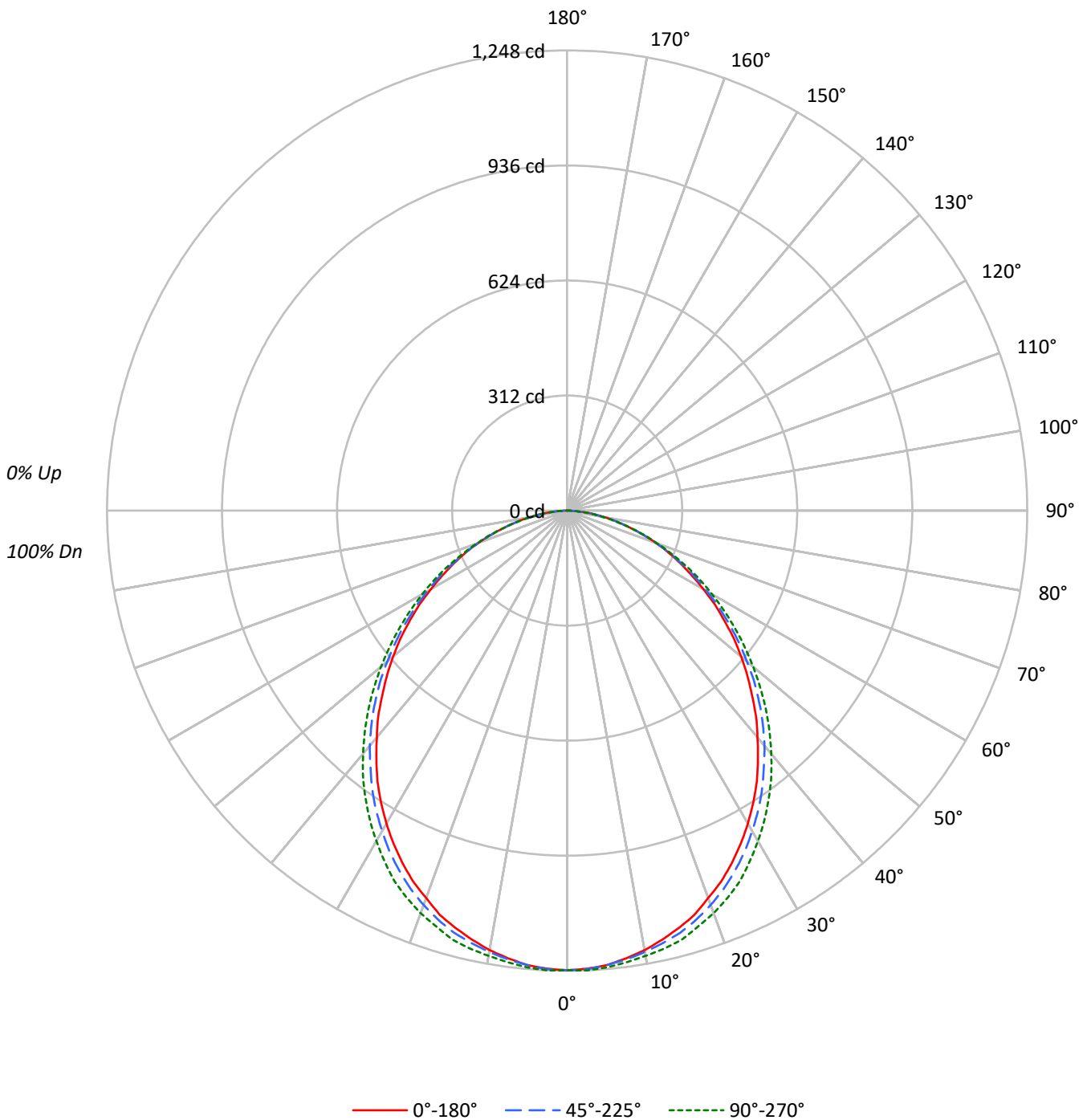
Input Watts (W): 24.459
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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 | 109 | 105 | 101 | 97 | 107 | 102 | 99 | 95 | 98 | 95 | 92 | 94 | 92 | 90 | 91 | 89 | 87 | 85 | | | | | 85 | | | |
| 2 | 100 | 92 | 85 | 80 | 97 | 90 | 84 | 79 | 86 | 81 | 77 | 83 | 79 | 75 | 80 | 77 | 74 | 71 | | | | | 71 | | | |
| 3 | 91 | 81 | 73 | 67 | 89 | 79 | 72 | 66 | 77 | 70 | 65 | 74 | 68 | 64 | 71 | 67 | 63 | 61 | | | | | 61 | | | |
| 4 | 84 | 72 | 64 | 57 | 81 | 71 | 63 | 57 | 68 | 61 | 56 | 66 | 60 | 55 | 64 | 59 | 54 | 52 | | | | | 52 | | | |
| 5 | 77 | 65 | 56 | 49 | 75 | 64 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 46 | | | | | 46 | | | |
| 6 | 71 | 58 | 50 | 43 | 70 | 57 | 49 | 43 | 56 | 48 | 43 | 54 | 47 | 42 | 52 | 47 | 42 | 40 | | | | | 40 | | | |
| 7 | 66 | 53 | 44 | 38 | 65 | 52 | 44 | 38 | 51 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 36 | | | | | 36 | | | |
| 8 | 62 | 49 | 40 | 34 | 60 | 48 | 40 | 34 | 47 | 39 | 34 | 45 | 39 | 34 | 44 | 38 | 34 | 32 | | | | | 32 | | | |
| 9 | 58 | 45 | 37 | 31 | 56 | 44 | 36 | 31 | 43 | 36 | 31 | 42 | 35 | 31 | 41 | 35 | 31 | 29 | | | | | 29 | | | |
| 10 | 54 | 41 | 33 | 28 | 53 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 32 | 28 | 38 | 32 | 28 | 26 | | | | | 26 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3355 | 3355 | 3355 |
| 5° | 3342 | 3342 | 3359 |
| 10° | 3308 | 3321 | 3351 |
| 15° | 3263 | 3303 | 3355 |
| 20° | 3202 | 3260 | 3327 |
| 25° | 3133 | 3199 | 3292 |
| 30° | 3045 | 3118 | 3216 |
| 35° | 2946 | 3029 | 3132 |
| 40° | 2820 | 2925 | 3024 |
| 45° | 2697 | 2805 | 2900 |
| 50° | 2580 | 2665 | 2757 |
| 55° | 2442 | 2516 | 2604 |
| 60° | 2295 | 2355 | 2439 |
| 65° | 2157 | 2197 | 2267 |
| 70° | 2011 | 2011 | 2048 |
| 75° | 1794 | 1794 | 1794 |
| 80° | 1579 | 1531 | 1531 |
| 85° | 1260 | 1210 | 1115 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 117.6 | 3.7 |
| 10°-20° | 334.2 | 10.6 |
| 20°-30° | 496.5 | 15.8 |
| 30°-40° | 576.2 | 18.3 |
| 40°-50° | 567.4 | 18.0 |
| 50°-60° | 480.2 | 15.3 |
| 60°-70° | 342.4 | 10.9 |
| 70°-80° | 184.0 | 5.9 |
| 80°-90° | 46.4 | 1.5 |
| 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° | 948.3 | 30.2 |
| 0°-40° | 1524.6 | 48.5 |
| 0°-60° | 2572.2 | 81.8 |
| 0°-90° | 3145.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3145.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1247 | 1247 | 1247 | 1247 | 1247 | |
| 5° | 1237 | 1237 | 1237 | 1242 | 1244 | 117 |
| 15° | 1171 | 1174 | 1186 | 1196 | 1204 | 330 |
| 25° | 1055 | 1058 | 1077 | 1098 | 1109 | 486 |
| 35° | 897 | 898 | 922 | 944 | 953 | 560 |
| 45° | 709 | 714 | 737 | 754 | 762 | 548 |
| 55° | 521 | 522 | 536 | 550 | 555 | 466 |
| 65° | 339 | 339 | 345 | 351 | 356 | 336 |
| 75° | 172 | 171 | 172 | 172 | 172 | 185 |
| 85° | 41 | 39 | 39 | 36 | 36 | 48 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1246.6 | 1246.6 | 1246.6 | 1246.6 | 1246.6 |
| 2.5° | 1243.5 | 1243.5 | 1245.0 | 1246.6 | 1248.2 |
| 5° | 1237.2 | 1237.2 | 1237.2 | 1241.9 | 1243.5 |
| 7.5° | 1224.7 | 1226.2 | 1227.8 | 1232.5 | 1235.6 |
| 10° | 1210.5 | 1212.1 | 1215.2 | 1223.1 | 1226.2 |
| 12.5° | 1191.7 | 1196.4 | 1201.1 | 1212.1 | 1216.8 |
| 15° | 1171.3 | 1174.5 | 1185.5 | 1196.4 | 1204.3 |
| 17.5° | 1149.4 | 1151.0 | 1163.5 | 1179.2 | 1182.3 |
| 20° | 1118.0 | 1122.7 | 1138.4 | 1154.1 | 1161.9 |
| 22.5° | 1089.8 | 1092.9 | 1110.2 | 1130.6 | 1136.8 |
| 25° | 1055.3 | 1058.4 | 1077.3 | 1097.6 | 1108.6 |
| 27.5° | 1019.2 | 1022.4 | 1042.8 | 1064.7 | 1072.6 |
| 30° | 980.0 | 983.2 | 1003.6 | 1027.1 | 1034.9 |
| 32.5° | 939.3 | 942.4 | 964.4 | 984.7 | 995.7 |
| 35° | 896.9 | 898.5 | 922.0 | 944.0 | 953.4 |
| 37.5° | 849.9 | 854.6 | 876.5 | 898.5 | 909.5 |
| 40° | 802.8 | 807.6 | 832.6 | 853.0 | 860.9 |
| 42.5° | 758.9 | 765.2 | 785.6 | 804.4 | 812.3 |
| 45° | 708.8 | 713.5 | 737.0 | 754.2 | 762.1 |
| 47.5° | 663.3 | 668.0 | 688.4 | 705.6 | 710.3 |
| 50° | 616.2 | 619.4 | 636.6 | 652.3 | 658.6 |
| 52.5° | 569.2 | 570.8 | 586.5 | 602.1 | 606.8 |
| 55° | 520.6 | 522.2 | 536.3 | 550.4 | 555.1 |
| 57.5° | 475.1 | 475.1 | 487.7 | 498.6 | 503.3 |
| 60° | 426.5 | 426.5 | 437.5 | 448.5 | 453.2 |
| 62.5° | 381.0 | 381.0 | 392.0 | 399.9 | 406.1 |
| 65° | 338.7 | 338.7 | 345.0 | 351.2 | 356.0 |
| 67.5° | 297.9 | 293.2 | 299.5 | 307.3 | 305.8 |
| 70° | 255.6 | 250.9 | 255.6 | 258.7 | 260.3 |
| 72.5° | 213.3 | 210.1 | 213.3 | 214.8 | 218.0 |
| 75° | 172.5 | 170.9 | 172.5 | 172.5 | 172.5 |
| 77.5° | 138.0 | 133.3 | 136.4 | 134.9 | 133.3 |
| 80° | 101.9 | 100.4 | 98.8 | 97.2 | 98.8 |
| 82.5° | 70.6 | 69.0 | 69.0 | 65.9 | 65.9 |
| 85° | 40.8 | 39.2 | 39.2 | 36.1 | 36.1 |
| 87.5° | 15.7 | 15.7 | 14.1 | 14.1 | 14.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)