

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: P295649

Luminaire Tested: **14RLN-LD5-31-UNV-L92765-W2A1-U-4000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P295649
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1901-085-1)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14RLN-LD5-31-UNV-L92765-W2A1-U-4000K
Description: RLN LED 1x4 TUNABLE WHITE TROFFER
WITH STANDARD LENS
Light Source: (168) 90 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2756.0 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.01 / 1.18
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

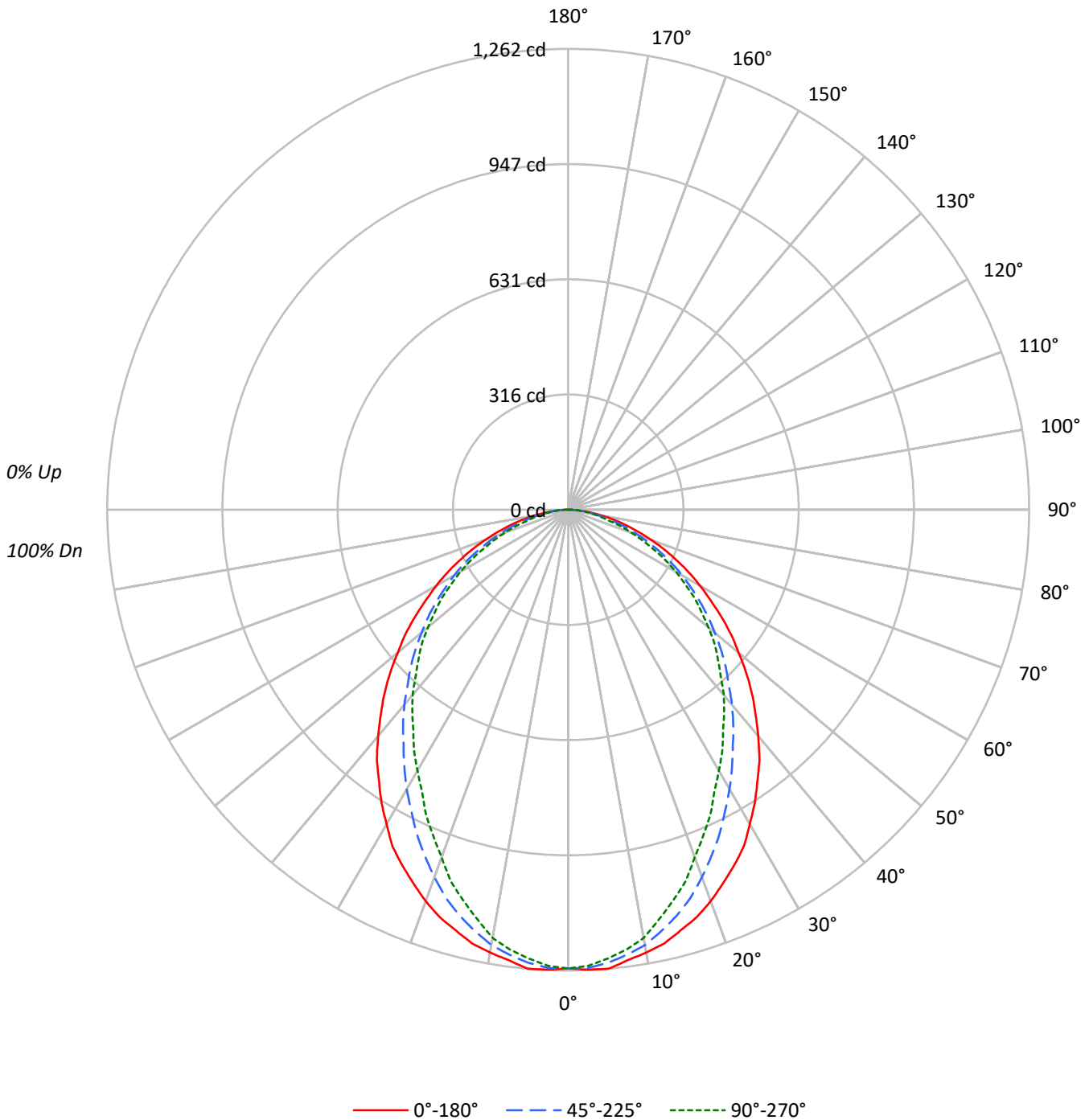
Input Watts (W): 28.644
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 110 | 105 | 101 | 97 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 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 | 89 | 80 | 73 | 67 | 77 | 71 | 66 | 75 | 69 | 65 | 72 | 68 | 64 | 62 |
| 4 | 85 | 73 | 65 | 58 | 82 | 72 | 64 | 58 | 69 | 63 | 57 | 67 | 61 | 56 | 65 | 60 | 56 | 54 |
| 5 | 78 | 66 | 57 | 51 | 76 | 65 | 57 | 51 | 63 | 55 | 50 | 61 | 54 | 49 | 59 | 53 | 49 | 47 |
| 6 | 72 | 60 | 51 | 45 | 70 | 59 | 50 | 45 | 57 | 50 | 44 | 55 | 49 | 44 | 54 | 48 | 43 | 41 |
| 7 | 67 | 54 | 46 | 40 | 66 | 53 | 45 | 40 | 52 | 45 | 39 | 51 | 44 | 39 | 49 | 43 | 39 | 37 |
| 8 | 63 | 50 | 42 | 36 | 61 | 49 | 41 | 36 | 48 | 41 | 36 | 47 | 40 | 35 | 45 | 40 | 35 | 33 |
| 9 | 59 | 46 | 38 | 33 | 57 | 45 | 38 | 32 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 30 |
| 10 | 55 | 42 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 29 | 40 | 34 | 29 | 39 | 33 | 29 | 28 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3380 | 3380 | 3380 |
| 5° | 3409 | 3365 | 3333 |
| 10° | 3365 | 3308 | 3254 |
| 15° | 3321 | 3204 | 3087 |
| 20° | 3267 | 3067 | 2900 |
| 25° | 3190 | 2910 | 2734 |
| 30° | 3089 | 2746 | 2565 |
| 35° | 2967 | 2581 | 2428 |
| 40° | 2842 | 2449 | 2327 |
| 45° | 2707 | 2321 | 2206 |
| 50° | 2549 | 2193 | 2096 |
| 55° | 2403 | 2070 | 1983 |
| 60° | 2249 | 1942 | 1836 |
| 65° | 2083 | 1794 | 1645 |
| 70° | 1896 | 1612 | 1456 |
| 75° | 1706 | 1440 | 1186 |
| 80° | 1461 | 1173 | 1119 |
| 85° | 1186 | 1115 | 1115 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 117.6 | 4.3 |
| 10°-20° | 322.8 | 11.7 |
| 20°-30° | 453.0 | 16.4 |
| 30°-40° | 502.5 | 18.2 |
| 40°-50° | 482.4 | 17.5 |
| 50°-60° | 404.3 | 14.7 |
| 60°-70° | 283.8 | 10.3 |
| 70°-80° | 148.2 | 5.4 |
| 80°-90° | 41.5 | 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° | 893.4 | 32.4 |
| 0°-40° | 1395.9 | 50.7 |
| 0°-60° | 2282.6 | 82.8 |
| 0°-90° | 2756.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2756.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1256 | 1256 | 1256 | 1256 | 1256 | |
| 5° | 1262 | 1246 | 1246 | 1237 | 1234 | 119 |
| 15° | 1192 | 1171 | 1150 | 1120 | 1108 | 336 |
| 25° | 1074 | 1036 | 980 | 932 | 921 | 494 |
| 35° | 903 | 853 | 786 | 747 | 739 | 566 |
| 45° | 711 | 657 | 610 | 587 | 580 | 548 |
| 55° | 512 | 474 | 441 | 427 | 423 | 458 |
| 65° | 327 | 305 | 282 | 264 | 258 | 325 |
| 75° | 164 | 151 | 138 | 122 | 114 | 174 |
| 85° | 38 | 36 | 36 | 36 | 36 | 45 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P295649

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1256.1 | 1256.1 | 1256.1 | 1256.1 | 1256.1 |
| 2.5° | 1260.7 | 1253.7 | 1256.1 | 1256.1 | 1250.3 |
| 5° | 1261.9 | 1245.6 | 1245.6 | 1237.4 | 1234.0 |
| 7.5° | 1244.4 | 1231.6 | 1229.3 | 1218.8 | 1215.3 |
| 10° | 1231.6 | 1218.8 | 1210.7 | 1196.7 | 1190.9 |
| 12.5° | 1216.5 | 1196.7 | 1181.6 | 1158.3 | 1149.0 |
| 15° | 1192.0 | 1171.1 | 1150.1 | 1119.9 | 1108.2 |
| 17.5° | 1169.9 | 1145.5 | 1114.1 | 1080.3 | 1067.5 |
| 20° | 1140.8 | 1111.7 | 1071.0 | 1024.4 | 1012.8 |
| 22.5° | 1107.1 | 1073.3 | 1025.6 | 975.5 | 966.2 |
| 25° | 1074.5 | 1036.1 | 980.2 | 932.5 | 920.8 |
| 27.5° | 1040.7 | 994.1 | 930.1 | 878.9 | 867.3 |
| 30° | 994.1 | 946.4 | 883.6 | 833.5 | 825.4 |
| 32.5° | 951.1 | 903.3 | 834.7 | 793.9 | 784.6 |
| 35° | 903.3 | 853.3 | 785.8 | 747.4 | 739.2 |
| 37.5° | 860.3 | 802.1 | 742.7 | 705.5 | 700.8 |
| 40° | 809.1 | 756.7 | 697.3 | 669.4 | 662.4 |
| 42.5° | 759.0 | 706.6 | 650.7 | 626.3 | 618.1 |
| 45° | 711.3 | 656.6 | 610.0 | 586.7 | 579.7 |
| 47.5° | 661.2 | 611.2 | 566.9 | 548.3 | 543.6 |
| 50° | 608.8 | 564.6 | 523.8 | 506.4 | 500.6 |
| 52.5° | 562.3 | 516.9 | 483.1 | 466.8 | 459.8 |
| 55° | 512.2 | 473.8 | 441.2 | 427.2 | 422.6 |
| 57.5° | 462.2 | 430.7 | 399.3 | 386.5 | 379.5 |
| 60° | 417.9 | 386.5 | 360.9 | 345.7 | 341.1 |
| 62.5° | 372.5 | 345.7 | 321.3 | 307.3 | 301.5 |
| 65° | 327.1 | 305.0 | 281.7 | 264.3 | 258.4 |
| 67.5° | 285.2 | 260.8 | 242.1 | 227.0 | 221.2 |
| 70° | 241.0 | 223.5 | 204.9 | 190.9 | 185.1 |
| 72.5° | 200.2 | 187.4 | 171.1 | 156.0 | 150.2 |
| 75° | 164.1 | 151.3 | 138.5 | 122.2 | 114.1 |
| 77.5° | 128.1 | 119.9 | 107.1 | 93.1 | 93.1 |
| 80° | 94.3 | 89.6 | 75.7 | 73.3 | 72.2 |
| 82.5° | 65.2 | 62.9 | 54.7 | 53.5 | 53.5 |
| 85° | 38.4 | 36.1 | 36.1 | 36.1 | 36.1 |
| 87.5° | 16.3 | 17.5 | 18.6 | 18.6 | 19.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)