

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: P232455

Luminaire Tested: **4SRS-40-W-UNV-L850-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P232455
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1706-124-1)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4SRS-40-W-UNV-L850-CD1-U
Description: WAVESTREAM LED RECESSED 4 FT FIXTURE
Light Source: -
Ballast/Driver: -

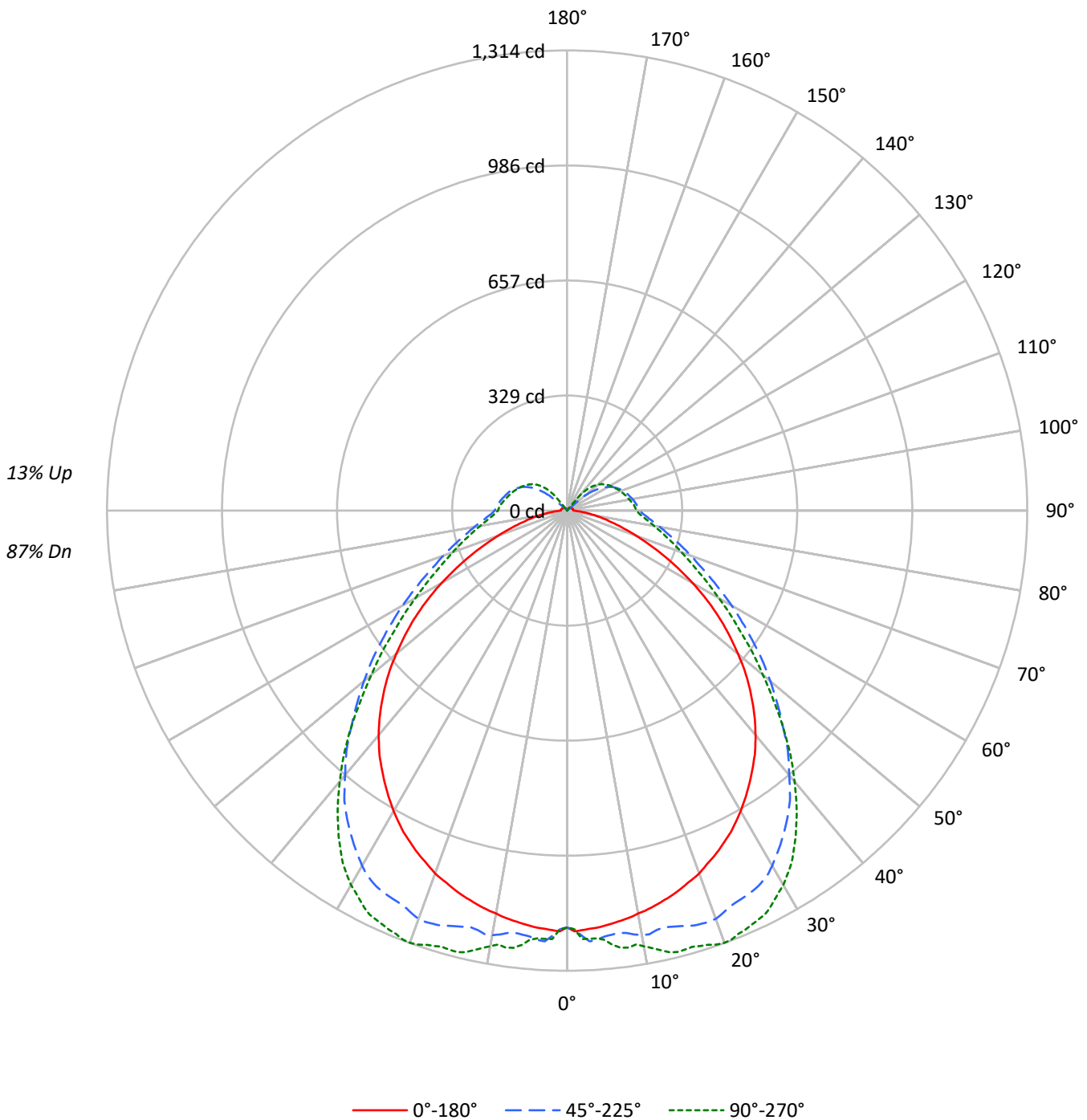
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4320.5 lumens
Efficiency: N/A
Efficacy: 160.0 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.44 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.02' x L: 3.88' x H: 0.3')
CIE Type: Semi-Direct

Input Watts (W): 27
Input Voltage (V): NR
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

TEST NUMBER: P232455
CATALOG NUMBER: 4SRS-40-W-UNV-L850-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P232455

CATALOG NUMBER: 4SRS-40-W-UNV-L850-CD1-U

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 | 116 | 116 | 116 | 116 | 112 | 112 | 112 | 112 | 104 | 104 | 104 | 97 | 97 | 97 | 91 | 91 | 91 | 87 |
| 1 | 105 | 100 | 95 | 91 | 101 | 96 | 92 | 88 | 89 | 86 | 83 | 83 | 81 | 78 | 78 | 76 | 74 | 71 |
| 2 | 95 | 87 | 79 | 73 | 91 | 84 | 77 | 72 | 78 | 73 | 68 | 73 | 68 | 65 | 68 | 65 | 61 | 59 |
| 3 | 87 | 76 | 68 | 61 | 83 | 73 | 66 | 60 | 69 | 62 | 57 | 64 | 59 | 55 | 60 | 56 | 52 | 49 |
| 4 | 79 | 67 | 58 | 52 | 76 | 65 | 57 | 51 | 61 | 54 | 49 | 57 | 51 | 47 | 54 | 49 | 45 | 42 |
| 5 | 73 | 60 | 51 | 45 | 70 | 58 | 50 | 44 | 55 | 48 | 42 | 51 | 45 | 41 | 48 | 43 | 39 | 37 |
| 6 | 67 | 54 | 45 | 39 | 65 | 53 | 44 | 38 | 49 | 42 | 37 | 47 | 40 | 36 | 44 | 39 | 34 | 32 |
| 7 | 62 | 49 | 40 | 34 | 60 | 48 | 39 | 34 | 45 | 38 | 33 | 42 | 36 | 32 | 40 | 35 | 30 | 28 |
| 8 | 58 | 45 | 36 | 30 | 56 | 43 | 36 | 30 | 41 | 34 | 29 | 39 | 33 | 28 | 37 | 31 | 27 | 25 |
| 9 | 54 | 41 | 33 | 27 | 52 | 40 | 32 | 27 | 38 | 31 | 26 | 36 | 30 | 25 | 34 | 29 | 25 | 23 |
| 10 | 51 | 38 | 30 | 25 | 49 | 37 | 29 | 24 | 35 | 28 | 24 | 33 | 27 | 23 | 32 | 26 | 22 | 21 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 211651 | 211651 | 211651 |
| 5° | 211155 | 99828 | 82361 |
| 10° | 208123 | 65676 | 52326 |
| 15° | 205667 | 48936 | 39145 |
| 20° | 202996 | 39634 | 31328 |
| 25° | 199261 | 32555 | 25596 |
| 30° | 194861 | 27296 | 21125 |
| 35° | 189135 | 22613 | 17220 |
| 40° | 182585 | 18540 | 13816 |
| 45° | 173493 | 15083 | 10926 |
| 50° | 161493 | 12230 | 8511 |
| 55° | 147540 | 9843 | 6648 |
| 60° | 129855 | 7902 | 5236 |
| 65° | 109817 | 6305 | 4164 |
| 70° | 89712 | 5115 | 3385 |
| 75° | 71521 | 4215 | 2805 |
| 80° | 58792 | 3536 | 2369 |
| 85° | 45193 | 3036 | 2041 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 116.4 | 2.7 |
| 10°-20° | 346.6 | 8.0 |
| 20°-30° | 547.9 | 12.7 |
| 30°-40° | 661.1 | 15.3 |
| 40°-50° | 648.1 | 15.0 |
| 50°-60° | 544.5 | 12.6 |
| 60°-70° | 408.6 | 9.5 |
| 70°-80° | 293.5 | 6.8 |
| 80°-90° | 212.0 | 4.9 |
| 90°-100° | 175.2 | 4.1 |
| 100°-110° | 149.2 | 3.5 |
| 110°-120° | 110.2 | 2.5 |
| 120°-130° | 72.8 | 1.7 |
| 130°-140° | 30.3 | 0.7 |
| 140°-150° | 3.2 | 0.1 |
| 150°-160° | 0.8 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 1010.9 | 23.4 |
| 0°-40° | 1672.1 | 38.7 |
| 0°-60° | 2864.6 | 66.3 |
| 0°-90° | 3778.7 | 87.5 |
| 90°-120° | 434.6 | 10.1 |
| 90°-150° | 540.9 | 12.5 |
| 90°-180° | 542.0 | 12.5 |
| 0°-180° | 4320.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1190 | 1190 | 1190 | 1190 | 1190 | |
| 5° | 1191 | 1212 | 1221 | 1224 | 1230 | 113 |
| 15° | 1140 | 1161 | 1229 | 1290 | 1298 | 322 |
| 25° | 1052 | 1099 | 1212 | 1269 | 1289 | 484 |
| 35° | 918 | 988 | 1091 | 1135 | 1138 | 574 |
| 45° | 743 | 802 | 871 | 881 | 871 | 572 |
| 55° | 528 | 595 | 645 | 622 | 605 | 471 |
| 65° | 304 | 406 | 450 | 424 | 414 | 303 |
| 75° | 134 | 272 | 316 | 298 | 294 | 147 |
| 85° | 42 | 188 | 232 | 219 | 219 | 43 |
| 90° | 18 | 160 | 207 | 197 | 197 | 11 |
| 95° | 17 | 152 | 199 | 189 | 191 | 14 |
| 105° | 17 | 121 | 179 | 171 | 171 | 17 |
| 115° | 15 | 52 | 153 | 154 | 152 | 15 |
| 125° | 13 | 17 | 108 | 131 | 130 | 12 |
| 135° | 11 | 11 | 7 | 83 | 94 | 8 |
| 145° | 7 | 7 | 4 | 0 | 0 | 5 |
| 155° | 4 | 3 | 1 | 0 | 0 | 2 |
| 165° | 0 | 0 | 0 | 0 | 0 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P232455

CATALOG NUMBER: 4SRS-40-W-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1190.4 | 1190.4 | 1190.4 | 1190.4 | 1190.4 |
| 1° | 1201.7 | 1189.0 | 1195.7 | 1198.4 | 1195.7 |
| 2° | 1199.1 | 1192.4 | 1215.1 | 1228.5 | 1224.5 |
| 3° | 1196.4 | 1200.4 | 1231.8 | 1230.5 | 1224.5 |
| 4° | 1194.4 | 1207.8 | 1228.5 | 1226.5 | 1224.5 |
| 5° | 1191.0 | 1211.8 | 1221.1 | 1223.8 | 1230.5 |
| 6° | 1187.0 | 1209.8 | 1217.8 | 1233.2 | 1247.2 |
| 7° | 1183.0 | 1203.7 | 1215.1 | 1246.6 | 1257.9 |
| 8° | 1179.0 | 1197.7 | 1217.8 | 1254.6 | 1259.9 |
| 9° | 1174.3 | 1192.4 | 1225.8 | 1252.6 | 1254.6 |
| 10° | 1168.3 | 1187.7 | 1231.2 | 1247.9 | 1263.3 |
| 11° | 1164.3 | 1181.0 | 1232.5 | 1254.6 | 1272.7 |
| 12° | 1158.9 | 1173.0 | 1225.2 | 1264.0 | 1283.4 |
| 13° | 1152.9 | 1166.9 | 1221.1 | 1275.3 | 1294.1 |
| 14° | 1146.2 | 1162.3 | 1225.2 | 1284.0 | 1299.4 |
| 15° | 1140.2 | 1160.9 | 1229.2 | 1290.1 | 1298.1 |
| 16° | 1133.5 | 1160.2 | 1233.2 | 1288.7 | 1296.1 |
| 17° | 1125.5 | 1158.9 | 1239.2 | 1283.4 | 1300.1 |
| 18° | 1117.4 | 1156.9 | 1240.5 | 1283.4 | 1303.4 |
| 19° | 1110.7 | 1153.6 | 1242.5 | 1286.0 | 1310.8 |
| 20° | 1102.7 | 1146.2 | 1240.5 | 1288.7 | 1313.5 |
| 21° | 1092.0 | 1136.8 | 1233.9 | 1291.4 | 1311.5 |
| 22° | 1082.0 | 1126.1 | 1225.2 | 1289.4 | 1304.1 |
| 23° | 1072.6 | 1114.7 | 1219.1 | 1284.0 | 1300.8 |
| 24° | 1062.6 | 1106.7 | 1215.8 | 1275.3 | 1294.7 |
| 25° | 1051.9 | 1099.4 | 1212.4 | 1269.3 | 1289.4 |
| 26° | 1040.5 | 1092.0 | 1208.4 | 1263.3 | 1284.7 |
| 27° | 1029.8 | 1084.6 | 1203.1 | 1255.9 | 1274.0 |
| 28° | 1017.1 | 1075.3 | 1195.0 | 1248.6 | 1259.9 |
| 29° | 1003.7 | 1065.2 | 1185.0 | 1237.9 | 1246.6 |
| 30° | 991.0 | 1055.2 | 1171.0 | 1221.8 | 1234.5 |
| 32.5° | 955.5 | 1025.1 | 1132.8 | 1183.0 | 1193.0 |
| 35° | 918.0 | 988.3 | 1090.7 | 1134.8 | 1137.5 |
| 37.5° | 879.9 | 947.5 | 1045.2 | 1076.6 | 1076.6 |
| 40° | 837.1 | 898.6 | 986.3 | 1014.4 | 1011.0 |
| 42.5° | 791.6 | 851.8 | 933.4 | 950.1 | 942.8 |
| 45° | 742.7 | 801.6 | 871.2 | 881.2 | 871.2 |
| 47.5° | 692.5 | 750.1 | 813.6 | 814.3 | 797.6 |
| 50° | 637.0 | 698.6 | 756.8 | 746.1 | 729.3 |
| 52.5° | 582.8 | 647.0 | 702.6 | 681.2 | 667.8 |
| 55° | 527.9 | 594.8 | 645.0 | 621.6 | 604.9 |
| 57.5° | 471.1 | 543.3 | 592.2 | 566.7 | 552.0 |
| 60° | 413.5 | 495.1 | 542.7 | 513.9 | 500.5 |
| 62.5° | 356.6 | 447.6 | 493.8 | 466.4 | 455.0 |
| 65° | 303.8 | 406.2 | 449.6 | 423.6 | 414.2 |



TEST NUMBER: P232455

CATALOG NUMBER: 4SRS-40-W-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 67.5° | 254.3 | 366.0 | 409.5 | 386.1 | 378.1 |
| 70° | 208.8 | 331.2 | 375.4 | 353.3 | 347.3 |
| 72.5° | 170.0 | 299.8 | 344.6 | 324.5 | 319.8 |
| 75° | 133.8 | 272.3 | 315.8 | 298.4 | 294.4 |
| 77.5° | 107.1 | 248.2 | 290.4 | 275.0 | 272.3 |
| 80° | 82.3 | 226.2 | 268.3 | 254.3 | 252.3 |
| 82.5° | 60.2 | 206.1 | 248.2 | 234.9 | 234.2 |
| 85° | 41.5 | 188.0 | 231.5 | 218.8 | 218.8 |
| 87.5° | 26.8 | 173.3 | 216.8 | 204.7 | 206.1 |
| 90° | 18.1 | 159.9 | 206.8 | 197.4 | 197.4 |
| 92.5° | 18.1 | 157.2 | 203.4 | 194.0 | 194.7 |
| 95° | 17.4 | 151.9 | 198.7 | 189.4 | 190.7 |
| 97.5° | 17.4 | 145.9 | 194.0 | 184.0 | 185.3 |
| 100° | 16.7 | 138.5 | 189.4 | 179.3 | 180.7 |
| 102.5° | 16.7 | 130.5 | 184.0 | 175.3 | 175.3 |
| 105° | 16.7 | 121.1 | 179.3 | 170.6 | 171.3 |
| 107.5° | 16.1 | 110.4 | 174.6 | 166.6 | 166.6 |
| 110° | 15.4 | 95.7 | 169.3 | 162.6 | 161.9 |
| 112.5° | 15.4 | 76.9 | 161.9 | 158.6 | 157.2 |
| 115° | 14.7 | 52.2 | 153.2 | 153.9 | 151.9 |
| 117.5° | 14.1 | 22.7 | 145.9 | 149.2 | 147.2 |
| 120° | 13.4 | 20.7 | 135.2 | 144.5 | 141.9 |
| 122.5° | 13.4 | 18.7 | 122.4 | 138.5 | 136.5 |
| 125° | 12.7 | 16.7 | 107.7 | 131.1 | 130.5 |
| 127.5° | 12.7 | 15.4 | 89.0 | 122.4 | 123.8 |
| 130° | 12.0 | 14.1 | 65.6 | 112.4 | 115.8 |
| 132.5° | 11.4 | 12.7 | 13.4 | 99.7 | 105.7 |
| 135° | 10.7 | 11.4 | 7.4 | 83.0 | 93.7 |
| 137.5° | 10.0 | 10.0 | 6.7 | 62.2 | 77.6 |
| 140° | 9.4 | 8.7 | 5.4 | 9.4 | 57.5 |
| 142.5° | 8.0 | 8.0 | 4.7 | 0.7 | 2.0 |
| 145° | 7.4 | 6.7 | 4.0 | 0.0 | 0.0 |
| 147.5° | 6.7 | 6.0 | 3.3 | 0.0 | 0.0 |
| 150° | 6.0 | 5.4 | 2.7 | 0.0 | 0.0 |
| 152.5° | 5.4 | 4.0 | 2.0 | 0.0 | 0.0 |
| 155° | 4.0 | 3.3 | 1.3 | 0.0 | 0.0 |
| 157.5° | 3.3 | 2.7 | 0.7 | 0.0 | 0.0 |
| 160° | 2.7 | 2.0 | 0.7 | 0.0 | 0.0 |
| 162.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P232455

CATALOG NUMBER: 4SRS-40-W-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|------|-----|-------|-----|-------|-----|
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)