

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: P345082

Luminaire Tested: **24CZ-35SE-L830-HRP-UNV-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P345082
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1905-313-5)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 24CZ-35SE-L830-HRP-UNV-CD1-U
Description: CRUZE 2X4 WITH HRP LENS INSERT
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2970.1 lumens
Efficiency: N/A
Efficacy: 103.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.29 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

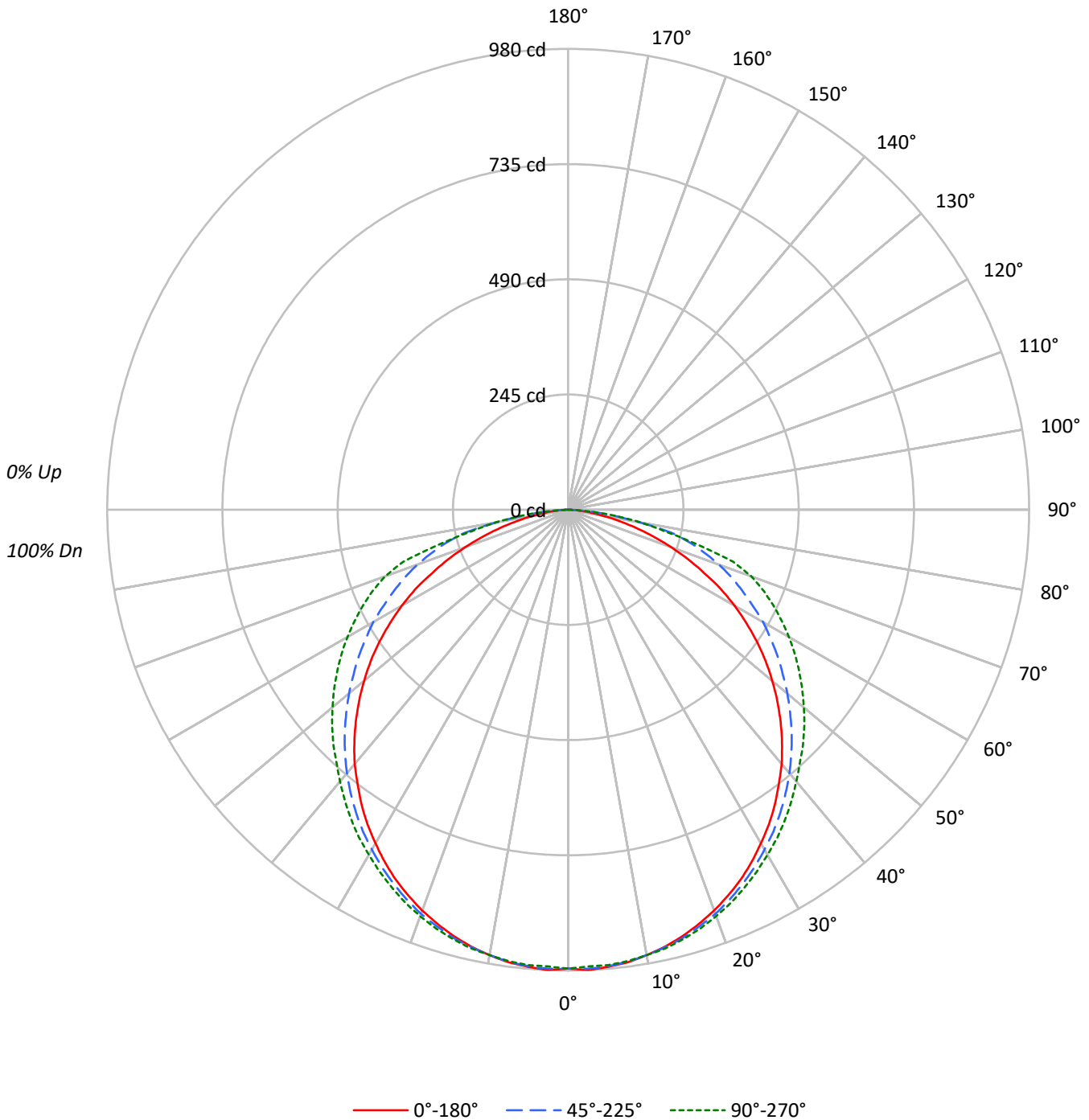
Input Watts (W): 28.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 108 | 103 | 99 | 95 | 105 | 101 | 97 | 93 | 97 | 93 | 90 | 93 | 90 | 87 | 89 | 87 | 85 | 83 |
| 2 | 98 | 89 | 82 | 76 | 95 | 87 | 81 | 75 | 84 | 78 | 74 | 81 | 76 | 72 | 77 | 74 | 70 | 68 |
| 3 | 89 | 78 | 70 | 63 | 86 | 76 | 69 | 62 | 73 | 67 | 61 | 71 | 65 | 60 | 68 | 63 | 59 | 57 |
| 4 | 81 | 69 | 60 | 53 | 79 | 68 | 59 | 52 | 65 | 58 | 52 | 63 | 56 | 51 | 60 | 55 | 50 | 48 |
| 5 | 75 | 61 | 52 | 45 | 72 | 60 | 52 | 45 | 58 | 50 | 44 | 56 | 49 | 44 | 54 | 48 | 43 | 41 |
| 6 | 69 | 55 | 46 | 39 | 67 | 54 | 45 | 39 | 52 | 45 | 39 | 51 | 44 | 38 | 49 | 43 | 38 | 36 |
| 7 | 64 | 50 | 41 | 35 | 62 | 49 | 41 | 34 | 48 | 40 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 32 |
| 8 | 59 | 45 | 37 | 31 | 58 | 45 | 36 | 31 | 43 | 36 | 31 | 42 | 35 | 30 | 41 | 35 | 30 | 28 |
| 9 | 55 | 42 | 33 | 28 | 54 | 41 | 33 | 28 | 40 | 33 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 25 |
| 10 | 52 | 38 | 30 | 25 | 51 | 38 | 30 | 25 | 37 | 30 | 25 | 36 | 29 | 25 | 35 | 29 | 25 | 23 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1313 | 1313 | 1313 |
| 5° | 1318 | 1316 | 1313 |
| 10° | 1314 | 1314 | 1314 |
| 15° | 1308 | 1313 | 1317 |
| 20° | 1299 | 1310 | 1317 |
| 25° | 1288 | 1303 | 1317 |
| 30° | 1273 | 1297 | 1316 |
| 35° | 1258 | 1292 | 1321 |
| 40° | 1240 | 1285 | 1325 |
| 45° | 1215 | 1278 | 1344 |
| 50° | 1185 | 1273 | 1369 |
| 55° | 1149 | 1274 | 1406 |
| 60° | 1099 | 1287 | 1459 |
| 65° | 1017 | 1300 | 1531 |
| 70° | 916 | 1341 | 1627 |
| 75° | 774 | 1382 | 1455 |
| 80° | 601 | 1183 | 1223 |
| 85° | 432 | 806 | 707 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 92.5 | 3.1 |
| 10°-20° | 265.6 | 8.9 |
| 20°-30° | 403.9 | 13.6 |
| 30°-40° | 490.7 | 16.5 |
| 40°-50° | 518.0 | 17.4 |
| 50°-60° | 486.7 | 16.4 |
| 60°-70° | 400.7 | 13.5 |
| 70°-80° | 252.4 | 8.5 |
| 80°-90° | 59.6 | 2.0 |
| 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° | 762.0 | 25.7 |
| 0°-40° | 1252.7 | 42.2 |
| 0°-60° | 2257.4 | 76.0 |
| 0°-90° | 2970.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2970.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 976 | 976 | 976 | 976 | 976 | |
| 5° | 976 | 971 | 975 | 973 | 972 | 93 |
| 15° | 939 | 935 | 943 | 945 | 945 | 265 |
| 25° | 868 | 866 | 878 | 883 | 887 | 400 |
| 35° | 766 | 770 | 786 | 796 | 804 | 479 |
| 45° | 639 | 649 | 672 | 691 | 706 | 492 |
| 55° | 490 | 508 | 543 | 581 | 599 | 437 |
| 65° | 319 | 350 | 408 | 461 | 481 | 317 |
| 75° | 149 | 195 | 266 | 290 | 280 | 159 |
| 85° | 28 | 47 | 52 | 48 | 46 | 35 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P345082

CATALOG NUMBER: 24CZ-35SE-L830-HRP-UNV-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 975.8 | 975.8 | 975.8 | 975.8 | 975.8 |
| 2.5° | 979.7 | 973.3 | 977.1 | 975.8 | 972.0 |
| 5° | 975.8 | 970.7 | 974.6 | 973.3 | 972.0 |
| 7.5° | 970.7 | 965.7 | 969.5 | 968.2 | 968.2 |
| 10° | 961.8 | 958.0 | 961.8 | 961.8 | 961.8 |
| 12.5° | 951.7 | 947.8 | 952.9 | 954.2 | 955.5 |
| 15° | 938.9 | 935.1 | 942.8 | 945.3 | 945.3 |
| 17.5° | 923.7 | 921.1 | 928.8 | 931.3 | 933.9 |
| 20° | 907.1 | 905.9 | 914.8 | 917.3 | 919.9 |
| 22.5° | 888.0 | 888.0 | 897.0 | 899.5 | 904.6 |
| 25° | 867.7 | 866.4 | 877.9 | 883.0 | 886.8 |
| 27.5° | 844.8 | 844.8 | 857.5 | 863.9 | 867.7 |
| 30° | 819.3 | 821.9 | 834.6 | 842.2 | 847.3 |
| 32.5° | 793.9 | 796.4 | 811.7 | 820.6 | 827.0 |
| 35° | 765.9 | 769.7 | 786.3 | 796.4 | 804.1 |
| 37.5° | 735.4 | 741.7 | 759.5 | 771.0 | 779.9 |
| 40° | 706.1 | 711.2 | 731.6 | 744.3 | 754.5 |
| 42.5° | 673.0 | 681.9 | 702.3 | 717.6 | 729.0 |
| 45° | 638.7 | 648.9 | 671.8 | 690.8 | 706.1 |
| 47.5° | 603.1 | 615.8 | 640.0 | 665.4 | 680.7 |
| 50° | 566.2 | 580.2 | 608.1 | 638.7 | 654.0 |
| 52.5° | 529.3 | 544.5 | 575.1 | 610.7 | 627.2 |
| 55° | 489.8 | 507.6 | 543.3 | 581.4 | 599.2 |
| 57.5° | 449.1 | 469.5 | 510.2 | 553.4 | 571.3 |
| 60° | 408.4 | 430.0 | 478.4 | 521.6 | 542.0 |
| 62.5° | 366.4 | 390.6 | 442.8 | 492.4 | 511.5 |
| 65° | 319.3 | 349.9 | 408.4 | 460.6 | 480.9 |
| 67.5° | 276.1 | 307.9 | 375.3 | 427.5 | 449.1 |
| 70° | 232.8 | 269.7 | 341.0 | 393.1 | 413.5 |
| 72.5° | 189.6 | 232.8 | 302.8 | 356.2 | 367.7 |
| 75° | 148.9 | 194.7 | 265.9 | 290.1 | 279.9 |
| 77.5° | 109.4 | 160.3 | 223.9 | 211.2 | 208.7 |
| 80° | 77.6 | 127.2 | 152.7 | 153.9 | 157.8 |
| 82.5° | 49.6 | 94.1 | 99.2 | 100.5 | 101.8 |
| 85° | 28.0 | 47.1 | 52.2 | 48.3 | 45.8 |
| 87.5° | 12.7 | 15.3 | 12.7 | 8.9 | 7.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)