

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: P201259

Luminaire Tested: **8LBLED-LD4-12-SYMF-UNV-L840-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P201259  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28138)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 8LBLED-LD4-12-SYMF-UNV-L840-CD1-U  
Description: 8 ft. Low Bay Linear, 12000 lm, Frst Sym lens, 4K  
Light Source: (784) 4000K CCT, 80 CRI LEDS  
2UT217098A8404C  
Ballast/Driver: OSRAM  
(OTi85W01920CC)

**Summary**

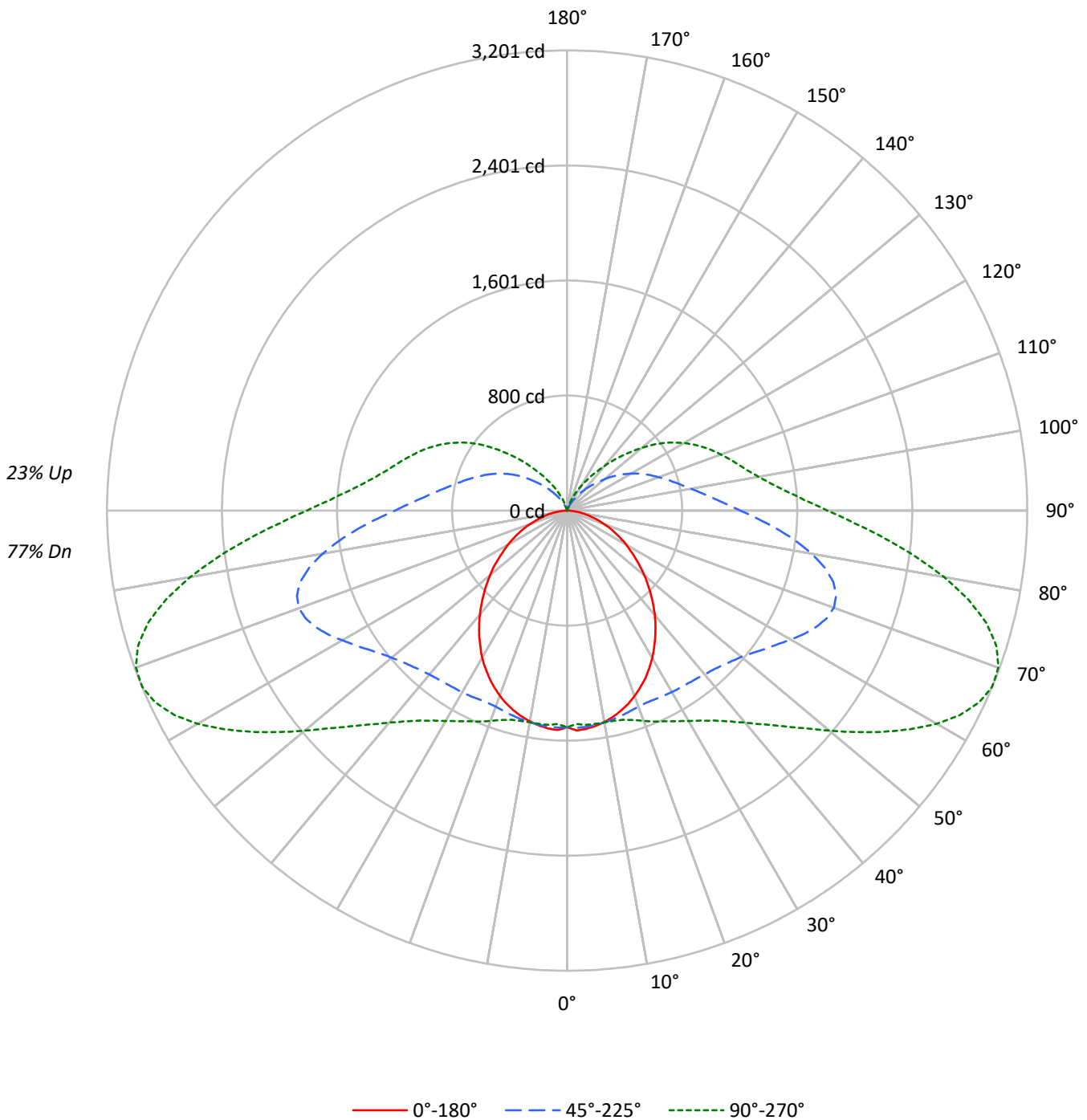
Lumens per Lamp: N/A  
Luminaire Lumens: 12897.2 lumens  
Efficiency: N/A  
Efficacy: 150.7 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.99 / 1.87  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 8' x H: 0.21')  
CIE Type: Semi-Direct  
  
Input Watts (W): 85.6  
Input Voltage (V): NR  
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



TEST NUMBER: P201259

CATALOG NUMBER: 8LBLED-LD4-12-SYMF-UNV-L840-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P201259

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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   | 114 | 114 | 114 | 114 | 108 | 108 | 108 | 108 | 98 | 98 | 98 | 89 | 89 | 89 | 81 | 81 | 81 | 77 |
| 1   | 98  | 91  | 84  | 78  | 92  | 86  | 80  | 75  | 77 | 73 | 68 | 69 | 65 | 62 | 62 | 59 | 56 | 52 |
| 2   | 86  | 75  | 66  | 59  | 81  | 71  | 63  | 56  | 64 | 57 | 51 | 57 | 51 | 47 | 50 | 46 | 42 | 38 |
| 3   | 77  | 64  | 54  | 46  | 72  | 61  | 51  | 44  | 54 | 46 | 40 | 48 | 42 | 37 | 43 | 37 | 33 | 29 |
| 4   | 70  | 55  | 45  | 37  | 65  | 52  | 43  | 36  | 47 | 39 | 32 | 42 | 35 | 30 | 37 | 31 | 27 | 23 |
| 5   | 63  | 49  | 38  | 31  | 59  | 46  | 37  | 29  | 41 | 33 | 27 | 37 | 30 | 25 | 32 | 27 | 22 | 19 |
| 6   | 58  | 43  | 33  | 26  | 55  | 41  | 32  | 25  | 37 | 29 | 23 | 33 | 26 | 21 | 29 | 23 | 19 | 16 |
| 7   | 54  | 39  | 29  | 22  | 50  | 37  | 28  | 21  | 33 | 25 | 20 | 30 | 23 | 18 | 26 | 21 | 16 | 14 |
| 8   | 50  | 35  | 26  | 19  | 47  | 33  | 25  | 19  | 30 | 22 | 17 | 27 | 20 | 16 | 24 | 18 | 14 | 12 |
| 9   | 46  | 32  | 23  | 17  | 44  | 30  | 22  | 16  | 27 | 20 | 15 | 25 | 18 | 14 | 22 | 17 | 13 | 10 |
| 10  | 43  | 29  | 21  | 15  | 41  | 28  | 20  | 15  | 25 | 18 | 14 | 23 | 17 | 12 | 20 | 15 | 11 | 9  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 12140 | 12140 | 12140 |
| 5°  | 12300 | 10909 | 12273 |
| 10° | 12155 | 10034 | 12128 |
| 15° | 11937 | 9423  | 11919 |
| 20° | 11654 | 9186  | 11635 |
| 25° | 11311 | 9096  | 11263 |
| 30° | 10849 | 9144  | 10839 |
| 35° | 10324 | 9366  | 10303 |
| 40° | 9761  | 9900  | 9715  |
| 45° | 9145  | 10757 | 9121  |
| 50° | 8520  | 12011 | 8493  |
| 55° | 7891  | 13562 | 7876  |
| 60° | 7327  | 15140 | 7344  |
| 65° | 6703  | 16412 | 6723  |
| 70° | 6044  | 17004 | 6044  |
| 75° | 5252  | 16638 | 5221  |
| 80° | 4383  | 15311 | 4339  |
| 85° | 3278  | 13447 | 3121  |



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 143.1   | 1.1       |
| 10°-20°   | 416.1   | 3.2       |
| 20°-30°   | 668.8   | 5.2       |
| 30°-40°   | 905.6   | 7.0       |
| 40°-50°   | 1163.4  | 9.0       |
| 50°-60°   | 1496.7  | 11.6      |
| 60°-70°   | 1831.1  | 14.2      |
| 70°-80°   | 1851.2  | 14.4      |
| 80°-90°   | 1431.6  | 11.1      |
| 90°-100°  | 994.6   | 7.7       |
| 100°-110° | 742.9   | 5.8       |
| 110°-120° | 556.8   | 4.3       |
| 120°-130° | 374.9   | 2.9       |
| 130°-140° | 205.6   | 1.6       |
| 140°-150° | 87.6    | 0.7       |
| 150°-160° | 25.1    | 0.2       |
| 160°-170° | 2.2     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-30°    | 1227.9  | 9.5       |
| 0°-40°    | 2133.5  | 16.5      |
| 0°-60°    | 4793.6  | 37.2      |
| 0°-90°    | 9907.5  | 76.8      |
| 90°-120°  | 2294.3  | 17.8      |
| 90°-150°  | 2962.4  | 23.0      |
| 90°-180°  | 2990.0  | 23.2      |
| 0°-180°   | 12897.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|------|------|------|------|------|------|------|
| 0°   | 1507 | 1507 | 1507 | 1507 | 1507 |      |
| 5°   | 1524 | 1510 | 1496 | 1508 | 1521 | 144  |
| 15°  | 1441 | 1475 | 1507 | 1475 | 1439 | 406  |
| 25°  | 1288 | 1448 | 1617 | 1449 | 1282 | 591  |
| 35°  | 1069 | 1467 | 1783 | 1468 | 1067 | 668  |
| 45°  | 824  | 1523 | 2120 | 1530 | 821  | 635  |
| 55°  | 583  | 1679 | 2683 | 1686 | 582  | 522  |
| 65°  | 371  | 1913 | 3160 | 1925 | 372  | 369  |
| 75°  | 185  | 1916 | 3019 | 1923 | 184  | 198  |
| 85°  | 46   | 1465 | 2216 | 1461 | 44   | 50   |
| 90°  | 1    | 1203 | 1810 | 1197 | 0    | 3    |
| 95°  | 1    | 1015 | 1531 | 1011 | 0    | 1    |
| 105° | 1    | 768  | 1234 | 768  | 0    | 1    |
| 115° | 1    | 597  | 1045 | 597  | 0    | 1    |
| 125° | 1    | 428  | 819  | 426  | 0    | 1    |
| 135° | 2    | 258  | 538  | 255  | 0    | 2    |
| 145° | 2    | 131  | 296  | 126  | 0    | 1    |
| 155° | 2    | 42   | 123  | 39   | 0    | 1    |
| 165° | 2    | 2    | 12   | 6    | 0    | 0    |
| 175° | 0    | 0    | 0    | 0    | 0    | 0    |
| 180° | 0    | 0    | 0    | 0    | 0    | 0    |



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CATALOG NUMBER: 8LBLELD4-12-SYMF-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 5°     | 10°    | 15°    | 20°    | 22.5°  | 25°    | 30°    | 35°    | 40°    | 45°    |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°     | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 |
| 2.5°   | 1530.9 | 1529.8 | 1523.2 | 1513.3 | 1509.0 | 1507.9 | 1506.8 | 1502.4 | 1501.3 | 1503.5 | 1512.2 |
| 5°     | 1524.3 | 1523.2 | 1516.6 | 1506.8 | 1503.5 | 1502.4 | 1501.3 | 1498.0 | 1498.0 | 1501.3 | 1510.1 |
| 7.5°   | 1511.2 | 1510.1 | 1503.5 | 1495.8 | 1492.5 | 1491.4 | 1491.4 | 1489.2 | 1489.2 | 1494.7 | 1504.6 |
| 10°    | 1492.5 | 1491.4 | 1486.0 | 1479.4 | 1477.2 | 1477.2 | 1477.2 | 1476.1 | 1478.3 | 1484.9 | 1495.8 |
| 12.5°  | 1470.6 | 1468.4 | 1464.1 | 1458.6 | 1458.6 | 1458.6 | 1459.7 | 1459.7 | 1463.0 | 1473.9 | 1487.1 |
| 15°    | 1441.1 | 1442.2 | 1437.8 | 1433.4 | 1435.6 | 1436.7 | 1438.9 | 1441.1 | 1446.5 | 1459.7 | 1475.0 |
| 17.5°  | 1410.4 | 1410.4 | 1407.1 | 1404.9 | 1409.3 | 1411.5 | 1414.8 | 1418.1 | 1427.9 | 1444.4 | 1461.9 |
| 20°    | 1372.1 | 1373.2 | 1372.1 | 1373.2 | 1378.7 | 1381.9 | 1386.3 | 1394.0 | 1407.1 | 1430.1 | 1450.9 |
| 22.5°  | 1330.5 | 1332.7 | 1332.7 | 1337.0 | 1345.8 | 1351.3 | 1356.8 | 1367.7 | 1386.3 | 1415.9 | 1445.4 |
| 25°    | 1287.8 | 1286.7 | 1292.1 | 1299.8 | 1308.6 | 1316.2 | 1322.8 | 1339.2 | 1366.6 | 1406.0 | 1447.6 |
| 27.5°  | 1236.3 | 1238.5 | 1246.2 | 1257.1 | 1270.2 | 1280.1 | 1290.0 | 1312.9 | 1352.4 | 1404.9 | 1453.1 |
| 30°    | 1183.7 | 1187.0 | 1196.9 | 1212.2 | 1230.8 | 1244.0 | 1254.9 | 1291.0 | 1344.7 | 1404.9 | 1457.5 |
| 32.5°  | 1126.8 | 1132.3 | 1145.4 | 1165.1 | 1191.4 | 1206.7 | 1224.3 | 1272.4 | 1338.1 | 1402.7 | 1461.9 |
| 35°    | 1068.8 | 1075.3 | 1092.8 | 1116.9 | 1147.6 | 1166.2 | 1193.6 | 1258.2 | 1329.4 | 1400.6 | 1467.3 |
| 37.5°  | 1009.6 | 1017.3 | 1037.0 | 1067.7 | 1107.1 | 1135.6 | 1168.4 | 1242.9 | 1322.8 | 1400.6 | 1475.0 |
| 40°    | 948.3  | 957.1  | 982.2  | 1017.3 | 1067.7 | 1104.9 | 1144.3 | 1227.5 | 1316.2 | 1401.6 | 1487.1 |
| 42.5°  | 885.9  | 895.7  | 926.4  | 968.0  | 1033.7 | 1077.5 | 1121.3 | 1214.4 | 1311.9 | 1407.1 | 1502.4 |
| 45°    | 823.5  | 836.6  | 870.6  | 920.9  | 1003.1 | 1049.0 | 1099.4 | 1202.3 | 1309.7 | 1417.0 | 1523.2 |
| 47.5°  | 761.1  | 776.4  | 815.8  | 876.0  | 971.3  | 1026.0 | 1078.6 | 1192.5 | 1311.9 | 1430.1 | 1550.6 |
| 50°    | 700.8  | 718.3  | 762.1  | 835.5  | 941.7  | 1000.9 | 1058.9 | 1185.9 | 1316.2 | 1449.8 | 1583.4 |
| 52.5°  | 639.5  | 662.5  | 710.7  | 799.4  | 915.5  | 977.9  | 1042.5 | 1181.5 | 1325.0 | 1476.1 | 1626.1 |
| 55°    | 582.6  | 606.7  | 662.5  | 764.3  | 890.3  | 958.2  | 1027.1 | 1180.4 | 1340.3 | 1507.9 | 1678.7 |
| 57.5°  | 524.5  | 554.1  | 615.4  | 730.4  | 864.0  | 938.4  | 1015.1 | 1182.6 | 1358.9 | 1541.8 | 1732.3 |
| 60°    | 475.2  | 501.5  | 572.7  | 697.5  | 841.0  | 919.8  | 1004.1 | 1184.8 | 1378.7 | 1581.2 | 1794.8 |
| 62.5°  | 422.7  | 451.2  | 535.5  | 665.8  | 818.0  | 903.4  | 993.2  | 1188.1 | 1399.5 | 1621.7 | 1858.3 |
| 65°    | 371.2  | 400.8  | 498.2  | 635.1  | 795.0  | 885.9  | 980.1  | 1188.1 | 1415.9 | 1659.0 | 1913.0 |
| 67.5°  | 321.9  | 353.7  | 461.0  | 602.3  | 768.7  | 864.0  | 963.6  | 1182.6 | 1425.7 | 1685.3 | 1955.7 |
| 70°    | 274.9  | 309.9  | 424.9  | 567.2  | 740.2  | 837.7  | 940.6  | 1170.6 | 1424.6 | 1695.1 | 1974.4 |
| 72.5°  | 227.8  | 268.3  | 385.5  | 532.2  | 709.6  | 808.1  | 913.3  | 1147.6 | 1409.3 | 1683.1 | 1962.3 |
| 75°    | 185.1  | 228.9  | 350.4  | 497.1  | 674.5  | 773.1  | 879.3  | 1112.6 | 1375.4 | 1645.8 | 1916.3 |
| 77.5°  | 145.6  | 193.8  | 313.2  | 458.8  | 635.1  | 732.6  | 836.6  | 1067.7 | 1321.7 | 1580.1 | 1835.3 |
| 80°    | 108.4  | 162.1  | 278.1  | 420.5  | 592.4  | 687.7  | 788.4  | 1010.7 | 1251.6 | 1491.4 | 1726.9 |
| 82.5°  | 75.6   | 132.5  | 244.2  | 382.2  | 548.6  | 639.5  | 735.9  | 942.8  | 1170.6 | 1388.5 | 1602.0 |
| 85°    | 46.0   | 106.2  | 210.2  | 344.9  | 503.7  | 589.1  | 680.0  | 871.6  | 1081.9 | 1276.8 | 1465.2 |
| 87.5°  | 19.7   | 82.1   | 180.7  | 308.8  | 458.8  | 539.9  | 623.1  | 803.8  | 987.7  | 1160.7 | 1328.3 |
| 90°    | 1.1    | 61.3   | 154.4  | 274.9  | 416.1  | 491.7  | 569.4  | 731.5  | 901.2  | 1054.5 | 1203.4 |
| 92.5°  | 0.0    | 52.6   | 139.1  | 254.0  | 386.5  | 456.6  | 528.9  | 677.8  | 831.1  | 968.0  | 1100.5 |
| 95°    | 1.1    | 43.8   | 125.9  | 231.1  | 357.0  | 423.8  | 490.6  | 629.6  | 767.6  | 893.5  | 1015.1 |
| 97.5°  | 1.1    | 36.1   | 111.7  | 210.2  | 329.6  | 390.9  | 453.3  | 582.6  | 707.4  | 826.8  | 939.5  |
| 100°   | 1.1    | 28.5   | 98.6   | 190.5  | 301.1  | 358.1  | 417.2  | 538.8  | 655.9  | 767.6  | 873.8  |
| 102.5° | 1.1    | 20.8   | 87.6   | 171.9  | 274.9  | 328.5  | 383.3  | 498.2  | 608.8  | 716.2  | 816.9  |
| 105°   | 1.1    | 14.2   | 76.7   | 154.4  | 250.8  | 301.1  | 352.6  | 461.0  | 566.1  | 669.1  | 767.6  |
| 107.5° | 1.1    | 9.9    | 66.8   | 138.0  | 224.5  | 274.9  | 323.0  | 426.0  | 526.7  | 626.4  | 722.7  |
| 110°   | 1.1    | 8.8    | 58.0   | 123.7  | 203.7  | 249.7  | 295.7  | 393.1  | 489.5  | 584.7  | 678.9  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 5°  | 10°  | 15°   | 20°   | 22.5° | 25°   | 30°   | 35°   | 40°   | 45°   |
|--------|-----|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 112.5° | 1.1 | 7.7 | 49.3 | 110.6 | 182.9 | 224.5 | 269.4 | 361.4 | 455.5 | 547.5 | 637.3 |
| 115°   | 1.1 | 7.7 | 40.5 | 98.6  | 165.4 | 202.6 | 244.2 | 330.7 | 420.5 | 509.2 | 596.8 |
| 117.5° | 1.1 | 7.7 | 32.9 | 87.6  | 148.9 | 182.9 | 219.0 | 302.2 | 385.5 | 472.0 | 557.4 |
| 120°   | 1.1 | 6.6 | 26.3 | 76.7  | 134.7 | 165.4 | 199.3 | 274.9 | 351.5 | 432.5 | 514.7 |
| 122.5° | 1.1 | 6.6 | 21.9 | 66.8  | 120.5 | 148.9 | 179.6 | 246.4 | 319.8 | 394.2 | 470.9 |
| 125°   | 1.1 | 5.5 | 18.6 | 55.8  | 106.2 | 133.6 | 161.0 | 221.2 | 289.1 | 358.1 | 428.2 |
| 127.5° | 2.2 | 5.5 | 15.3 | 46.0  | 92.0  | 116.1 | 142.4 | 197.1 | 256.2 | 318.7 | 385.5 |
| 130°   | 2.2 | 5.5 | 13.1 | 35.0  | 77.7  | 99.6  | 122.6 | 173.0 | 227.8 | 281.4 | 339.5 |
| 132.5° | 2.2 | 4.4 | 12.0 | 27.4  | 64.6  | 84.3  | 105.1 | 150.0 | 198.2 | 246.4 | 296.8 |
| 135°   | 2.2 | 4.4 | 9.9  | 21.9  | 51.5  | 69.0  | 88.7  | 128.1 | 170.8 | 215.7 | 258.4 |
| 137.5° | 2.2 | 3.3 | 8.8  | 17.5  | 39.4  | 55.8  | 73.4  | 108.4 | 145.6 | 184.0 | 223.4 |
| 140°   | 2.2 | 3.3 | 7.7  | 14.2  | 29.6  | 41.6  | 58.0  | 88.7  | 121.5 | 155.5 | 189.4 |
| 142.5° | 2.2 | 3.3 | 6.6  | 12.0  | 23.0  | 31.8  | 43.8  | 72.3  | 100.7 | 129.2 | 158.8 |
| 145°   | 2.2 | 3.3 | 5.5  | 9.9   | 17.5  | 24.1  | 31.8  | 55.8  | 81.0  | 106.2 | 131.4 |
| 147.5° | 2.2 | 3.3 | 5.5  | 8.8   | 14.2  | 18.6  | 24.1  | 40.5  | 63.5  | 84.3  | 106.2 |
| 150°   | 2.2 | 3.3 | 4.4  | 7.7   | 12.0  | 14.2  | 17.5  | 28.5  | 46.0  | 64.6  | 83.2  |
| 152.5° | 2.2 | 2.2 | 4.4  | 6.6   | 8.8   | 11.0  | 13.1  | 20.8  | 31.8  | 46.0  | 62.4  |
| 155°   | 2.2 | 2.2 | 3.3  | 5.5   | 7.7   | 8.8   | 9.9   | 14.2  | 20.8  | 29.6  | 41.6  |
| 157.5° | 2.2 | 2.2 | 3.3  | 4.4   | 5.5   | 6.6   | 7.7   | 9.9   | 14.2  | 18.6  | 25.2  |
| 160°   | 2.2 | 2.2 | 3.3  | 4.4   | 4.4   | 5.5   | 5.5   | 6.6   | 8.8   | 11.0  | 14.2  |
| 162.5° | 2.2 | 2.2 | 3.3  | 3.3   | 3.3   | 4.4   | 4.4   | 4.4   | 5.5   | 5.5   | 6.6   |
| 165°   | 2.2 | 2.2 | 2.2  | 3.3   | 2.2   | 3.3   | 2.2   | 3.3   | 3.3   | 2.2   | 2.2   |
| 167.5° | 0.0 | 0.0 | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 170°   | 0.0 | 0.0 | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 172.5° | 0.0 | 0.0 | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 175°   | 0.0 | 0.0 | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 177.5° | 0.0 | 0.0 | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 180°   | 0.0 | 0.0 | 0.0  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



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**CANDELA DISTRIBUTION (continued):**

|        | 50°    | 55°    | 60°    | 65°    | 67.5°  | 70°    | 75°    | 80°    | 85°    | 90°    | 95°    |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°     | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 |
| 2.5°   | 1515.5 | 1507.9 | 1504.6 | 1500.2 | 1496.9 | 1494.7 | 1491.4 | 1489.2 | 1486.0 | 1486.0 | 1487.1 |
| 5°     | 1513.3 | 1505.7 | 1503.5 | 1499.1 | 1496.9 | 1495.8 | 1493.6 | 1494.7 | 1494.7 | 1495.8 | 1494.7 |
| 7.5°   | 1509.0 | 1502.4 | 1500.2 | 1498.0 | 1495.8 | 1494.7 | 1493.6 | 1495.8 | 1495.8 | 1496.9 | 1496.9 |
| 10°    | 1501.3 | 1496.9 | 1496.9 | 1494.7 | 1493.6 | 1492.5 | 1490.3 | 1493.6 | 1493.6 | 1495.8 | 1494.7 |
| 12.5°  | 1492.5 | 1491.4 | 1492.5 | 1493.6 | 1493.6 | 1492.5 | 1491.4 | 1495.8 | 1498.0 | 1498.0 | 1499.1 |
| 15°    | 1482.7 | 1484.9 | 1490.3 | 1493.6 | 1495.8 | 1495.8 | 1498.0 | 1502.4 | 1505.7 | 1506.8 | 1506.8 |
| 17.5°  | 1475.0 | 1480.5 | 1490.3 | 1499.1 | 1503.5 | 1505.7 | 1511.2 | 1519.9 | 1525.4 | 1526.5 | 1526.5 |
| 20°    | 1469.5 | 1482.7 | 1500.2 | 1516.6 | 1522.1 | 1526.5 | 1537.4 | 1548.4 | 1556.0 | 1557.1 | 1557.1 |
| 22.5°  | 1473.9 | 1495.8 | 1519.9 | 1538.5 | 1546.2 | 1551.7 | 1563.7 | 1577.9 | 1586.7 | 1587.8 | 1587.8 |
| 25°    | 1484.9 | 1511.2 | 1538.5 | 1561.5 | 1570.3 | 1576.9 | 1590.0 | 1605.3 | 1614.1 | 1617.4 | 1616.3 |
| 27.5°  | 1494.7 | 1526.5 | 1558.2 | 1584.5 | 1594.4 | 1603.1 | 1619.6 | 1637.1 | 1648.0 | 1651.3 | 1649.1 |
| 30°    | 1503.5 | 1540.7 | 1576.9 | 1608.6 | 1621.7 | 1631.6 | 1651.3 | 1672.1 | 1686.4 | 1689.6 | 1686.4 |
| 32.5°  | 1512.2 | 1557.1 | 1599.8 | 1637.1 | 1650.2 | 1664.5 | 1689.6 | 1713.7 | 1728.0 | 1732.3 | 1730.2 |
| 35°    | 1524.3 | 1576.9 | 1627.2 | 1669.9 | 1687.5 | 1703.9 | 1733.4 | 1761.9 | 1779.4 | 1782.7 | 1779.4 |
| 37.5°  | 1540.7 | 1602.0 | 1657.9 | 1711.5 | 1730.2 | 1753.2 | 1788.2 | 1822.1 | 1842.9 | 1847.3 | 1842.9 |
| 40°    | 1561.5 | 1633.8 | 1699.5 | 1761.9 | 1787.1 | 1811.2 | 1853.9 | 1894.4 | 1917.4 | 1925.1 | 1921.8 |
| 42.5°  | 1588.9 | 1673.2 | 1749.9 | 1824.3 | 1852.8 | 1883.5 | 1933.8 | 1980.9 | 2007.2 | 2016.0 | 2007.2 |
| 45°    | 1622.8 | 1722.5 | 1811.2 | 1897.7 | 1930.5 | 1967.8 | 2028.0 | 2081.7 | 2112.3 | 2120.0 | 2112.3 |
| 47.5°  | 1667.7 | 1780.5 | 1883.5 | 1983.1 | 2022.5 | 2066.3 | 2137.5 | 2198.8 | 2231.7 | 2240.4 | 2232.8 |
| 50°    | 1715.9 | 1850.6 | 1968.9 | 2082.8 | 2132.0 | 2178.0 | 2261.3 | 2329.1 | 2364.2 | 2380.6 | 2366.4 |
| 52.5°  | 1776.1 | 1927.3 | 2066.3 | 2193.4 | 2252.5 | 2307.2 | 2399.2 | 2473.7 | 2516.4 | 2530.6 | 2510.9 |
| 55°    | 1848.4 | 2019.2 | 2174.7 | 2321.5 | 2380.6 | 2441.9 | 2543.8 | 2622.6 | 2667.5 | 2682.8 | 2668.6 |
| 57.5°  | 1928.4 | 2116.7 | 2288.6 | 2443.0 | 2512.0 | 2574.4 | 2688.3 | 2770.4 | 2809.9 | 2829.6 | 2812.1 |
| 60°    | 2011.6 | 2217.4 | 2403.6 | 2567.9 | 2643.4 | 2708.0 | 2824.1 | 2905.1 | 2946.7 | 2966.5 | 2950.0 |
| 62.5°  | 2092.6 | 2314.9 | 2510.9 | 2681.7 | 2754.0 | 2825.2 | 2941.3 | 3019.0 | 3061.7 | 3079.2 | 3063.9 |
| 65°    | 2162.7 | 2397.0 | 2598.5 | 2774.8 | 2849.3 | 2919.4 | 3028.9 | 3103.3 | 3148.2 | 3160.3 | 3149.3 |
| 67.5°  | 2215.3 | 2452.9 | 2656.6 | 2830.7 | 2902.9 | 2973.0 | 3077.1 | 3146.0 | 3189.8 | 3200.8 | 3190.9 |
| 70°    | 2239.3 | 2474.8 | 2676.3 | 2846.0 | 2917.2 | 2979.6 | 3078.1 | 3143.8 | 3185.5 | 3192.0 | 3184.4 |
| 72.5°  | 2224.0 | 2452.9 | 2647.8 | 2809.9 | 2877.8 | 2932.5 | 3023.4 | 3085.8 | 3125.2 | 3130.7 | 3125.2 |
| 75°    | 2167.1 | 2386.1 | 2570.1 | 2721.2 | 2784.7 | 2830.7 | 2917.2 | 2975.2 | 3014.6 | 3019.0 | 3012.4 |
| 77.5°  | 2070.7 | 2274.4 | 2443.0 | 2588.7 | 2641.2 | 2686.1 | 2768.3 | 2819.7 | 2851.5 | 2858.0 | 2850.4 |
| 80°    | 1941.5 | 2128.8 | 2279.9 | 2410.2 | 2460.5 | 2498.9 | 2578.8 | 2634.7 | 2652.2 | 2660.9 | 2650.0 |
| 82.5°  | 1793.7 | 1961.2 | 2095.9 | 2214.2 | 2259.1 | 2306.1 | 2357.6 | 2409.1 | 2434.3 | 2441.9 | 2433.2 |
| 85°    | 1634.9 | 1783.8 | 1903.2 | 2009.4 | 2048.8 | 2091.5 | 2136.4 | 2186.8 | 2208.7 | 2216.4 | 2207.6 |
| 87.5°  | 1476.1 | 1607.5 | 1712.6 | 1806.8 | 1842.9 | 1881.3 | 1934.9 | 1961.2 | 1990.8 | 1999.5 | 1989.7 |
| 90°    | 1333.8 | 1452.0 | 1546.2 | 1631.6 | 1665.6 | 1700.6 | 1742.2 | 1775.1 | 1802.4 | 1810.1 | 1801.3 |
| 92.5°  | 1218.8 | 1325.0 | 1411.5 | 1488.2 | 1517.7 | 1550.6 | 1591.1 | 1622.8 | 1646.9 | 1654.6 | 1645.8 |
| 95°    | 1123.5 | 1221.0 | 1302.0 | 1373.2 | 1401.6 | 1432.3 | 1477.2 | 1502.4 | 1524.3 | 1530.9 | 1524.3 |
| 97.5°  | 1042.5 | 1134.5 | 1211.1 | 1280.1 | 1307.5 | 1335.9 | 1379.7 | 1404.9 | 1425.7 | 1431.2 | 1425.7 |
| 100°   | 971.3  | 1061.1 | 1136.6 | 1202.3 | 1229.7 | 1257.1 | 1299.8 | 1325.0 | 1344.7 | 1351.3 | 1344.7 |
| 102.5° | 912.2  | 998.7  | 1073.1 | 1139.9 | 1166.2 | 1193.6 | 1234.1 | 1263.7 | 1279.0 | 1286.7 | 1280.1 |
| 105°   | 860.7  | 945.0  | 1019.5 | 1085.2 | 1112.6 | 1138.8 | 1180.4 | 1207.8 | 1225.3 | 1234.1 | 1226.4 |
| 107.5° | 813.6  | 896.8  | 972.4  | 1035.9 | 1063.3 | 1089.6 | 1132.3 | 1159.6 | 1176.1 | 1185.9 | 1177.2 |
| 110°   | 768.7  | 850.8  | 923.1  | 988.8  | 1016.2 | 1043.6 | 1086.3 | 1113.7 | 1130.1 | 1138.8 | 1131.2 |





TEST NUMBER: P201259

CATALOG NUMBER: 8LBLED-LD4-12-SYMF-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

|        | 50°   | 55°   | 60°   | 65°   | 67.5° | 70°   | 75°    | 80°    | 85°    | 90°    | 95°    |
|--------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| 112.5° | 724.9 | 804.9 | 879.3 | 942.8 | 969.1 | 996.5 | 1040.3 | 1068.8 | 1084.1 | 1093.9 | 1085.2 |
| 115°   | 681.1 | 760.0 | 832.2 | 893.5 | 919.8 | 948.3 | 991.0  | 1020.6 | 1037.0 | 1044.7 | 1035.9 |
| 117.5° | 638.4 | 714.0 | 783.0 | 843.2 | 869.5 | 896.8 | 938.4  | 968.0  | 985.5  | 993.2  | 984.4  |
| 120°   | 594.6 | 666.9 | 734.8 | 789.5 | 816.9 | 842.1 | 884.8  | 913.3  | 930.8  | 938.4  | 929.7  |
| 122.5° | 547.5 | 618.7 | 683.3 | 737.0 | 763.2 | 787.3 | 828.9  | 857.4  | 873.8  | 881.5  | 873.8  |
| 125°   | 499.3 | 566.1 | 628.6 | 682.2 | 704.1 | 727.1 | 767.6  | 795.0  | 812.5  | 819.1  | 812.5  |
| 127.5° | 451.2 | 512.5 | 570.5 | 617.6 | 641.7 | 663.6 | 701.9  | 728.2  | 743.5  | 751.2  | 745.7  |
| 130°   | 403.0 | 461.0 | 513.6 | 556.3 | 577.1 | 597.9 | 632.9  | 657.0  | 672.4  | 678.9  | 673.4  |
| 132.5° | 351.5 | 407.4 | 458.8 | 496.1 | 515.8 | 533.3 | 565.0  | 585.8  | 599.0  | 606.7  | 600.1  |
| 135°   | 305.5 | 351.5 | 399.7 | 438.0 | 457.7 | 473.1 | 501.5  | 519.0  | 531.1  | 537.7  | 531.1  |
| 137.5° | 263.9 | 303.3 | 342.7 | 376.7 | 395.3 | 411.7 | 439.1  | 455.5  | 466.5  | 473.1  | 466.5  |
| 140°   | 225.6 | 259.5 | 294.6 | 321.9 | 338.4 | 351.5 | 376.7  | 390.9  | 400.8  | 406.3  | 399.7  |
| 142.5° | 188.3 | 219.0 | 248.6 | 273.8 | 288.0 | 298.9 | 323.0  | 334.0  | 341.7  | 344.9  | 341.7  |
| 145°   | 156.6 | 181.8 | 207.0 | 230.0 | 240.9 | 249.7 | 273.8  | 285.8  | 292.4  | 295.7  | 292.4  |
| 147.5° | 127.0 | 147.8 | 168.6 | 187.3 | 197.1 | 208.1 | 224.5  | 238.7  | 244.2  | 246.4  | 244.2  |
| 150°   | 99.6  | 118.3 | 134.7 | 150.0 | 157.7 | 165.4 | 179.6  | 193.8  | 199.3  | 202.6  | 199.3  |
| 152.5° | 75.6  | 90.9  | 104.0 | 116.1 | 122.6 | 129.2 | 141.3  | 154.4  | 159.9  | 162.1  | 159.9  |
| 155°   | 54.8  | 65.7  | 77.7  | 86.5  | 92.0  | 96.4  | 105.1  | 113.9  | 122.6  | 122.6  | 122.6  |
| 157.5° | 33.9  | 42.7  | 52.6  | 60.2  | 63.5  | 67.9  | 74.5   | 82.1   | 88.7   | 92.0   | 92.0   |
| 160°   | 17.5  | 23.0  | 29.6  | 35.0  | 38.3  | 41.6  | 46.0   | 52.6   | 56.9   | 60.2   | 58.0   |
| 162.5° | 7.7   | 9.9   | 13.1  | 15.3  | 17.5  | 18.6  | 21.9   | 25.2   | 27.4   | 32.9   | 28.5   |
| 165°   | 2.2   | 2.2   | 3.3   | 4.4   | 4.4   | 4.4   | 5.5    | 6.6    | 7.7    | 12.0   | 8.8    |
| 167.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 170°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 172.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 175°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 177.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 180°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



TEST NUMBER: P201259

CATALOG NUMBER: 8LBLELD4-12-SYMF-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

|        | 100°   | 105°   | 110°   | 112.5° | 115°   | 120°   | 125°   | 130°   | 135°   | 140°   | 145°   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°     | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 |
| 2.5°   | 1489.2 | 1492.5 | 1496.9 | 1499.1 | 1502.4 | 1504.6 | 1510.1 | 1516.6 | 1511.2 | 1503.5 | 1504.6 |
| 5°     | 1494.7 | 1493.6 | 1496.9 | 1499.1 | 1501.3 | 1502.4 | 1507.9 | 1514.4 | 1507.9 | 1500.2 | 1500.2 |
| 7.5°   | 1496.9 | 1495.8 | 1496.9 | 1498.0 | 1499.1 | 1499.1 | 1504.6 | 1510.1 | 1503.5 | 1493.6 | 1491.4 |
| 10°    | 1493.6 | 1492.5 | 1493.6 | 1495.8 | 1495.8 | 1495.8 | 1499.1 | 1503.5 | 1495.8 | 1483.8 | 1479.4 |
| 12.5°  | 1495.8 | 1492.5 | 1492.5 | 1493.6 | 1493.6 | 1491.4 | 1492.5 | 1495.8 | 1486.0 | 1472.8 | 1466.3 |
| 15°    | 1503.5 | 1498.0 | 1495.8 | 1495.8 | 1493.6 | 1488.2 | 1486.0 | 1486.0 | 1475.0 | 1457.5 | 1448.7 |
| 17.5°  | 1522.1 | 1513.3 | 1506.8 | 1503.5 | 1499.1 | 1489.2 | 1481.6 | 1477.2 | 1463.0 | 1443.3 | 1429.0 |
| 20°    | 1550.6 | 1538.5 | 1528.7 | 1522.1 | 1516.6 | 1499.1 | 1483.8 | 1471.7 | 1452.0 | 1427.9 | 1409.3 |
| 22.5°  | 1579.0 | 1565.9 | 1551.7 | 1545.1 | 1537.4 | 1517.7 | 1496.9 | 1476.1 | 1446.5 | 1413.7 | 1388.5 |
| 25°    | 1606.4 | 1593.3 | 1576.9 | 1570.3 | 1560.4 | 1537.4 | 1511.2 | 1487.1 | 1448.7 | 1403.8 | 1367.7 |
| 27.5°  | 1638.2 | 1621.7 | 1604.2 | 1594.4 | 1583.4 | 1557.1 | 1527.6 | 1498.0 | 1455.3 | 1403.8 | 1353.5 |
| 30°    | 1674.3 | 1654.6 | 1631.6 | 1620.7 | 1607.5 | 1576.9 | 1540.7 | 1505.7 | 1459.7 | 1403.8 | 1345.8 |
| 32.5°  | 1715.9 | 1692.9 | 1665.6 | 1650.2 | 1634.9 | 1598.8 | 1556.0 | 1515.5 | 1463.0 | 1402.7 | 1339.2 |
| 35°    | 1764.1 | 1737.8 | 1705.0 | 1687.5 | 1668.8 | 1626.1 | 1575.8 | 1526.5 | 1468.4 | 1401.6 | 1330.5 |
| 37.5°  | 1824.3 | 1793.7 | 1754.2 | 1732.3 | 1710.4 | 1660.1 | 1602.0 | 1542.9 | 1477.2 | 1402.7 | 1323.9 |
| 40°    | 1896.6 | 1860.5 | 1814.5 | 1787.1 | 1760.8 | 1702.8 | 1633.8 | 1563.7 | 1489.2 | 1404.9 | 1317.3 |
| 42.5°  | 1982.0 | 1938.2 | 1886.7 | 1855.0 | 1824.3 | 1752.1 | 1673.2 | 1590.0 | 1505.7 | 1409.3 | 1314.0 |
| 45°    | 2083.9 | 2037.9 | 1972.2 | 1932.7 | 1898.8 | 1814.5 | 1723.6 | 1625.0 | 1529.8 | 1420.3 | 1312.9 |
| 47.5°  | 2201.0 | 2143.0 | 2071.8 | 2025.8 | 1985.3 | 1887.8 | 1782.7 | 1668.8 | 1557.1 | 1434.5 | 1315.1 |
| 50°    | 2332.4 | 2266.7 | 2184.6 | 2136.4 | 2086.0 | 1974.4 | 1852.8 | 1720.3 | 1592.2 | 1455.3 | 1320.6 |
| 52.5°  | 2477.0 | 2404.7 | 2316.0 | 2259.1 | 2203.2 | 2074.0 | 1931.6 | 1786.0 | 1632.7 | 1481.6 | 1330.5 |
| 55°    | 2627.0 | 2549.2 | 2450.7 | 2388.3 | 2325.9 | 2183.5 | 2024.7 | 1857.2 | 1686.4 | 1514.4 | 1346.9 |
| 57.5°  | 2772.6 | 2692.7 | 2584.3 | 2520.8 | 2450.7 | 2299.6 | 2124.4 | 1934.9 | 1744.4 | 1552.8 | 1365.5 |
| 60°    | 2907.3 | 2827.4 | 2717.9 | 2653.3 | 2576.6 | 2414.6 | 2226.2 | 2020.3 | 1804.6 | 1593.3 | 1387.4 |
| 62.5°  | 3021.2 | 2944.6 | 2835.0 | 2769.3 | 2690.5 | 2523.0 | 2323.7 | 2103.6 | 1870.3 | 1636.0 | 1408.2 |
| 65°    | 3105.5 | 3033.3 | 2927.0 | 2859.1 | 2783.6 | 2609.5 | 2405.8 | 2176.9 | 1925.1 | 1673.2 | 1426.8 |
| 67.5°  | 3148.2 | 3080.3 | 2977.4 | 2912.8 | 2838.3 | 2665.3 | 2461.6 | 2226.2 | 1966.7 | 1699.5 | 1438.9 |
| 70°    | 3143.8 | 3079.2 | 2982.9 | 2919.4 | 2848.2 | 2681.7 | 2481.4 | 2245.9 | 1985.3 | 1709.4 | 1436.7 |
| 72.5°  | 3086.9 | 3022.3 | 2935.8 | 2874.5 | 2806.6 | 2651.1 | 2454.0 | 2228.4 | 1971.1 | 1694.0 | 1419.2 |
| 75°    | 2974.1 | 2915.0 | 2827.4 | 2777.0 | 2715.7 | 2571.1 | 2382.8 | 2163.8 | 1922.9 | 1653.5 | 1383.0 |
| 77.5°  | 2812.1 | 2767.2 | 2681.7 | 2634.7 | 2574.4 | 2440.8 | 2263.4 | 2066.3 | 1838.6 | 1585.6 | 1327.2 |
| 80°    | 2613.9 | 2576.6 | 2493.4 | 2451.8 | 2392.7 | 2276.6 | 2123.3 | 1932.7 | 1726.9 | 1493.6 | 1254.9 |
| 82.5°  | 2397.0 | 2354.3 | 2288.6 | 2250.3 | 2194.5 | 2090.4 | 1944.8 | 1789.3 | 1597.7 | 1388.5 | 1170.6 |
| 85°    | 2172.6 | 2133.1 | 2072.9 | 2040.1 | 1990.8 | 1897.7 | 1767.4 | 1630.5 | 1460.8 | 1272.4 | 1079.7 |
| 87.5°  | 1959.0 | 1920.7 | 1863.8 | 1834.2 | 1789.3 | 1706.1 | 1592.2 | 1471.7 | 1321.7 | 1160.7 | 983.3  |
| 90°    | 1774.0 | 1737.8 | 1684.2 | 1656.8 | 1616.3 | 1540.7 | 1437.8 | 1329.4 | 1196.9 | 1049.0 | 896.8  |
| 92.5°  | 1621.7 | 1588.9 | 1538.5 | 1512.2 | 1476.1 | 1407.1 | 1314.0 | 1215.5 | 1096.1 | 968.0  | 826.8  |
| 95°    | 1501.3 | 1469.5 | 1424.6 | 1399.5 | 1365.5 | 1294.3 | 1212.2 | 1120.2 | 1010.7 | 893.5  | 763.2  |
| 97.5°  | 1403.8 | 1377.6 | 1328.3 | 1304.2 | 1276.8 | 1204.5 | 1130.1 | 1039.2 | 937.4  | 827.8  | 706.3  |
| 100°   | 1325.0 | 1295.4 | 1250.5 | 1227.5 | 1199.1 | 1131.2 | 1055.6 | 970.2  | 871.6  | 767.6  | 654.8  |
| 102.5° | 1263.7 | 1233.0 | 1191.4 | 1165.1 | 1137.7 | 1068.8 | 994.3  | 911.1  | 816.9  | 716.2  | 607.7  |
| 105°   | 1208.9 | 1179.4 | 1137.7 | 1111.5 | 1084.1 | 1016.2 | 945.0  | 860.7  | 767.6  | 670.2  | 565.0  |
| 107.5° | 1157.5 | 1131.2 | 1089.6 | 1063.3 | 1035.9 | 968.0  | 896.8  | 813.6  | 722.7  | 627.5  | 525.6  |
| 110°   | 1113.7 | 1085.2 | 1041.4 | 1016.2 | 986.6  | 922.0  | 850.8  | 769.8  | 678.9  | 585.8  | 488.4  |



TEST NUMBER: P201259

CATALOG NUMBER: 8LBLED-LD4-12-SYMF-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

|        | 100°   | 105°   | 110°  | 112.5° | 115°  | 120°  | 125°  | 130°  | 135°  | 140°  | 145°  |
|--------|--------|--------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| 112.5° | 1069.9 | 1039.2 | 995.4 | 970.2  | 940.6 | 876.0 | 805.9 | 726.0 | 637.3 | 547.5 | 453.3 |
| 115°   | 1021.7 | 992.1  | 946.1 | 920.9  | 891.4 | 827.8 | 760.0 | 682.2 | 596.8 | 509.2 | 418.3 |
| 117.5° | 970.2  | 940.6  | 894.6 | 870.6  | 842.1 | 779.7 | 715.1 | 639.5 | 556.3 | 472.0 | 383.3 |
| 120°   | 914.4  | 885.9  | 842.1 | 818.0  | 790.6 | 730.4 | 668.0 | 592.4 | 513.6 | 432.5 | 350.4 |
| 122.5° | 857.4  | 830.0  | 787.3 | 763.2  | 737.0 | 680.0 | 618.7 | 545.3 | 469.8 | 394.2 | 318.7 |
| 125°   | 796.1  | 768.7  | 728.2 | 705.2  | 678.9 | 624.2 | 565.0 | 496.1 | 426.0 | 358.1 | 285.8 |
| 127.5° | 724.9  | 703.0  | 663.6 | 640.6  | 616.5 | 568.3 | 511.4 | 449.0 | 384.4 | 318.7 | 254.0 |
| 130°   | 657.0  | 634.0  | 596.8 | 576.0  | 555.2 | 511.4 | 461.0 | 400.8 | 337.3 | 280.3 | 222.3 |
| 132.5° | 585.8  | 565.0  | 533.3 | 515.8  | 497.1 | 457.7 | 406.3 | 347.1 | 293.5 | 244.2 | 192.7 |
| 135°   | 519.0  | 501.5  | 473.1 | 457.7  | 439.1 | 397.5 | 349.3 | 300.0 | 255.1 | 211.3 | 165.4 |
| 137.5° | 456.6  | 439.1  | 412.8 | 396.4  | 376.7 | 339.5 | 300.0 | 259.5 | 217.9 | 180.7 | 140.2 |
| 140°   | 390.9  | 376.7  | 352.6 | 338.4  | 320.8 | 289.1 | 256.2 | 217.9 | 185.1 | 151.1 | 116.1 |
| 142.5° | 335.1  | 323.0  | 298.9 | 285.8  | 270.5 | 244.2 | 213.5 | 184.0 | 154.4 | 124.8 | 95.3  |
| 145°   | 286.9  | 274.9  | 248.6 | 238.7  | 224.5 | 201.5 | 176.3 | 150.0 | 125.9 | 100.7 | 76.7  |
| 147.5° | 239.8  | 225.6  | 202.6 | 193.8  | 182.9 | 163.2 | 143.4 | 122.6 | 101.8 | 79.9  | 59.1  |
| 150°   | 196.0  | 179.6  | 161.0 | 155.5  | 144.5 | 129.2 | 112.8 | 95.3  | 78.8  | 61.3  | 42.7  |
| 152.5° | 154.4  | 140.2  | 124.8 | 119.4  | 110.6 | 100.7 | 86.5  | 72.3  | 59.1  | 42.7  | 29.6  |
| 155°   | 115.0  | 104.0  | 92.0  | 88.7   | 82.1  | 74.5  | 62.4  | 51.5  | 39.4  | 28.5  | 20.8  |
| 157.5° | 81.0   | 72.3   | 63.5  | 61.3   | 56.9  | 50.4  | 40.5  | 31.8  | 25.2  | 18.6  | 14.2  |
| 160°   | 50.4   | 44.9   | 38.3  | 36.1   | 32.9  | 28.5  | 21.9  | 18.6  | 15.3  | 12.0  | 8.8   |
| 162.5° | 24.1   | 20.8   | 18.6  | 17.5   | 15.3  | 13.1  | 12.0  | 9.9   | 8.8   | 7.7   | 6.6   |
| 165°   | 8.8    | 8.8    | 8.8   | 7.7    | 7.7   | 7.7   | 7.7   | 6.6   | 5.5   | 5.5   | 4.4   |
| 167.5° | 0.0    | 0.0    | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 170°   | 0.0    | 0.0    | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 172.5° | 0.0    | 0.0    | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 175°   | 0.0    | 0.0    | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 177.5° | 0.0    | 0.0    | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 180°   | 0.0    | 0.0    | 0.0   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



TEST NUMBER: P201259

CATALOG NUMBER: 8LBLED-LD4-12-SYMF-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

|        | 150°   | 155°   | 157.5° | 160°   | 165°   | 170°   | 175°   | 180°   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°     | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 | 1506.8 |
| 2.5°   | 1505.7 | 1507.9 | 1507.9 | 1509.0 | 1512.2 | 1518.8 | 1527.6 | 1528.7 |
| 5°     | 1501.3 | 1502.4 | 1502.4 | 1502.4 | 1505.7 | 1511.2 | 1519.9 | 1521.0 |
| 7.5°   | 1491.4 | 1491.4 | 1491.4 | 1491.4 | 1494.7 | 1499.1 | 1506.8 | 1507.9 |
| 10°    | 1478.3 | 1477.2 | 1477.2 | 1476.1 | 1478.3 | 1481.6 | 1490.3 | 1489.2 |
| 12.5°  | 1461.9 | 1459.7 | 1458.6 | 1458.6 | 1457.5 | 1460.8 | 1466.3 | 1467.3 |
| 15°    | 1443.3 | 1438.9 | 1436.7 | 1434.5 | 1433.4 | 1433.4 | 1440.0 | 1438.9 |
| 17.5°  | 1421.4 | 1414.8 | 1411.5 | 1408.2 | 1403.8 | 1403.8 | 1408.2 | 1407.1 |
| 20°    | 1396.2 | 1387.4 | 1381.9 | 1377.6 | 1371.0 | 1368.8 | 1371.0 | 1369.9 |
| 22.5°  | 1371.0 | 1356.8 | 1351.3 | 1344.7 | 1334.8 | 1330.5 | 1329.4 | 1328.3 |
| 25°    | 1341.4 | 1323.9 | 1316.2 | 1309.7 | 1295.4 | 1290.0 | 1284.5 | 1282.3 |
| 27.5°  | 1315.1 | 1290.0 | 1280.1 | 1269.1 | 1252.7 | 1245.1 | 1236.3 | 1234.1 |
| 30°    | 1292.1 | 1254.9 | 1239.6 | 1228.6 | 1207.8 | 1195.8 | 1184.8 | 1182.6 |
| 32.5°  | 1274.6 | 1223.2 | 1202.3 | 1189.2 | 1160.7 | 1144.3 | 1130.1 | 1123.5 |
| 35°    | 1259.3 | 1193.6 | 1166.2 | 1145.4 | 1111.5 | 1091.8 | 1072.0 | 1066.6 |
| 37.5°  | 1245.1 | 1168.4 | 1132.3 | 1103.8 | 1065.5 | 1037.0 | 1015.1 | 1006.3 |
| 40°    | 1230.8 | 1145.4 | 1101.6 | 1065.5 | 1015.1 | 982.2  | 954.9  | 943.9  |
| 42.5°  | 1217.7 | 1122.4 | 1075.3 | 1031.5 | 965.8  | 926.4  | 896.8  | 881.5  |
| 45°    | 1205.6 | 1101.6 | 1050.1 | 1002.0 | 917.6  | 871.6  | 835.5  | 821.3  |
| 47.5°  | 1196.9 | 1081.9 | 1025.0 | 972.4  | 872.7  | 815.8  | 778.6  | 760.0  |
| 50°    | 1190.3 | 1063.3 | 1000.9 | 942.8  | 833.3  | 762.1  | 720.5  | 698.6  |
| 52.5°  | 1187.0 | 1046.9 | 979.0  | 916.5  | 797.2  | 710.7  | 661.4  | 645.0  |
| 55°    | 1188.1 | 1033.7 | 960.3  | 892.5  | 763.2  | 661.4  | 606.7  | 581.5  |
| 57.5°  | 1190.3 | 1021.7 | 941.7  | 868.4  | 729.3  | 613.2  | 551.9  | 525.6  |
| 60°    | 1194.7 | 1011.8 | 925.3  | 845.4  | 697.5  | 571.6  | 501.5  | 476.3  |
| 62.5°  | 1199.1 | 1003.1 | 908.9  | 823.5  | 666.9  | 533.3  | 451.2  | 422.7  |
| 65°    | 1200.2 | 989.9  | 891.4  | 801.6  | 636.2  | 495.0  | 399.7  | 372.3  |
| 67.5°  | 1195.8 | 973.5  | 869.5  | 776.4  | 604.5  | 457.7  | 351.5  | 323.0  |
| 70°    | 1182.6 | 951.6  | 844.3  | 747.9  | 569.4  | 421.6  | 305.5  | 274.9  |
| 72.5°  | 1158.5 | 923.1  | 814.7  | 716.2  | 535.5  | 383.3  | 263.9  | 226.7  |
| 75°    | 1124.6 | 888.1  | 779.7  | 680.0  | 499.3  | 347.1  | 225.6  | 184.0  |
| 77.5°  | 1078.6 | 843.2  | 738.1  | 639.5  | 459.9  | 309.9  | 192.7  | 144.5  |
| 80°    | 1019.5 | 796.1  | 692.1  | 595.7  | 421.6  | 275.9  | 161.0  | 107.3  |
| 82.5°  | 949.4  | 742.4  | 642.8  | 550.8  | 385.5  | 240.9  | 131.4  | 74.5   |
| 85°    | 877.1  | 684.4  | 591.3  | 503.7  | 347.1  | 208.1  | 106.2  | 43.8   |
| 87.5°  | 805.9  | 626.4  | 542.0  | 461.0  | 307.7  | 178.5  | 82.1   | 17.5   |
| 90°    | 735.9  | 570.5  | 490.6  | 415.0  | 273.8  | 151.1  | 61.3   | 0.0    |
| 92.5°  | 677.8  | 528.9  | 456.6  | 384.4  | 251.9  | 136.9  | 52.6   | 0.0    |
| 95°    | 626.4  | 489.5  | 420.5  | 353.7  | 228.9  | 123.7  | 43.8   | 0.0    |
| 97.5°  | 579.3  | 452.3  | 388.7  | 325.2  | 208.1  | 109.5  | 36.1   | 0.0    |
| 100°   | 534.4  | 415.0  | 355.9  | 298.9  | 188.3  | 97.5   | 27.4   | 0.0    |
| 102.5° | 495.0  | 382.2  | 326.3  | 270.5  | 168.6  | 85.4   | 19.7   | 0.0    |
| 105°   | 456.6  | 350.4  | 298.9  | 245.3  | 151.1  | 74.5   | 12.0   | 0.0    |
| 107.5° | 422.7  | 320.8  | 271.6  | 222.3  | 134.7  | 64.6   | 7.7    | 0.0    |
| 110°   | 389.8  | 293.5  | 245.3  | 200.4  | 120.5  | 55.8   | 6.6    | 0.0    |



TEST NUMBER: P201259

CATALOG NUMBER: 8LBLED-LD4-12-SYMF-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

|        | 150°  | 155°  | 157.5° | 160°  | 165°  | 170° | 175° | 180° |
|--------|-------|-------|--------|-------|-------|------|------|------|
| 112.5° | 359.2 | 267.2 | 222.3  | 179.6 | 108.4 | 47.1 | 6.6  | 0.0  |
| 115°   | 327.4 | 242.0 | 200.4  | 162.1 | 96.4  | 38.3 | 5.5  | 0.0  |
| 117.5° | 300.0 | 217.9 | 180.7  | 147.8 | 84.3  | 30.7 | 5.5  | 0.0  |
| 120°   | 272.7 | 197.1 | 164.3  | 132.5 | 73.4  | 23.0 | 5.5  | 0.0  |
| 122.5° | 245.3 | 178.5 | 146.7  | 118.3 | 63.5  | 18.6 | 4.4  | 0.0  |
| 125°   | 220.1 | 158.8 | 130.3  | 102.9 | 52.6  | 16.4 | 4.4  | 0.0  |
| 127.5° | 194.9 | 139.1 | 112.8  | 88.7  | 41.6  | 14.2 | 3.3  | 0.0  |
| 130°   | 169.7 | 119.4 | 96.4   | 74.5  | 31.8  | 12.0 | 3.3  | 0.0  |
| 132.5° | 146.7 | 100.7 | 81.0   | 61.3  | 25.2  | 9.9  | 2.2  | 0.0  |
| 135°   | 123.7 | 84.3  | 66.8   | 48.2  | 19.7  | 8.8  | 2.2  | 0.0  |
| 137.5° | 104.0 | 69.0  | 52.6   | 36.1  | 16.4  | 6.6  | 2.2  | 0.0  |
| 140°   | 85.4  | 54.8  | 39.4   | 27.4  | 13.1  | 5.5  | 1.1  | 0.0  |
| 142.5° | 67.9  | 40.5  | 29.6   | 20.8  | 11.0  | 4.4  | 1.1  | 0.0  |
| 145°   | 52.6  | 29.6  | 21.9   | 16.4  | 9.9   | 3.3  | 1.1  | 0.0  |
| 147.5° | 38.3  | 23.0  | 17.5   | 14.2  | 7.7   | 3.3  | 1.1  | 0.0  |
| 150°   | 27.4  | 17.5  | 14.2   | 11.0  | 5.5   | 2.2  | 1.1  | 0.0  |
| 152.5° | 20.8  | 13.1  | 11.0   | 8.8   | 4.4   | 2.2  | 1.1  | 0.0  |
| 155°   | 15.3  | 9.9   | 8.8    | 6.6   | 3.3   | 2.2  | 1.1  | 0.0  |
| 157.5° | 11.0  | 7.7   | 6.6    | 4.4   | 3.3   | 2.2  | 1.1  | 0.0  |
| 160°   | 6.6   | 5.5   | 4.4    | 3.3   | 2.2   | 1.1  | 1.1  | 0.0  |
| 162.5° | 5.5   | 3.3   | 3.3    | 3.3   | 2.2   | 1.1  | 1.1  | 0.0  |
| 165°   | 3.3   | 2.2   | 2.2    | 2.2   | 1.1   | 1.1  | 1.1  | 0.0  |
| 167.5° | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  |
| 170°   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  |
| 172.5° | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  |
| 175°   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  |
| 177.5° | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  |
| 180°   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   | 0.0  | 0.0  | 0.0  |

(END OF REPORT)