

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: LUMARK

Report Number: P143933

Luminaire Tested: **LDRL-5WQ-F02-E-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P143933  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33698)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-5WQ-F02-E-8030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE WIDE  
Light Source: (14) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4271.8 lumens  
Efficiency: N/A  
Efficacy: 77.7 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')  
IES Classification: Type V - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G1

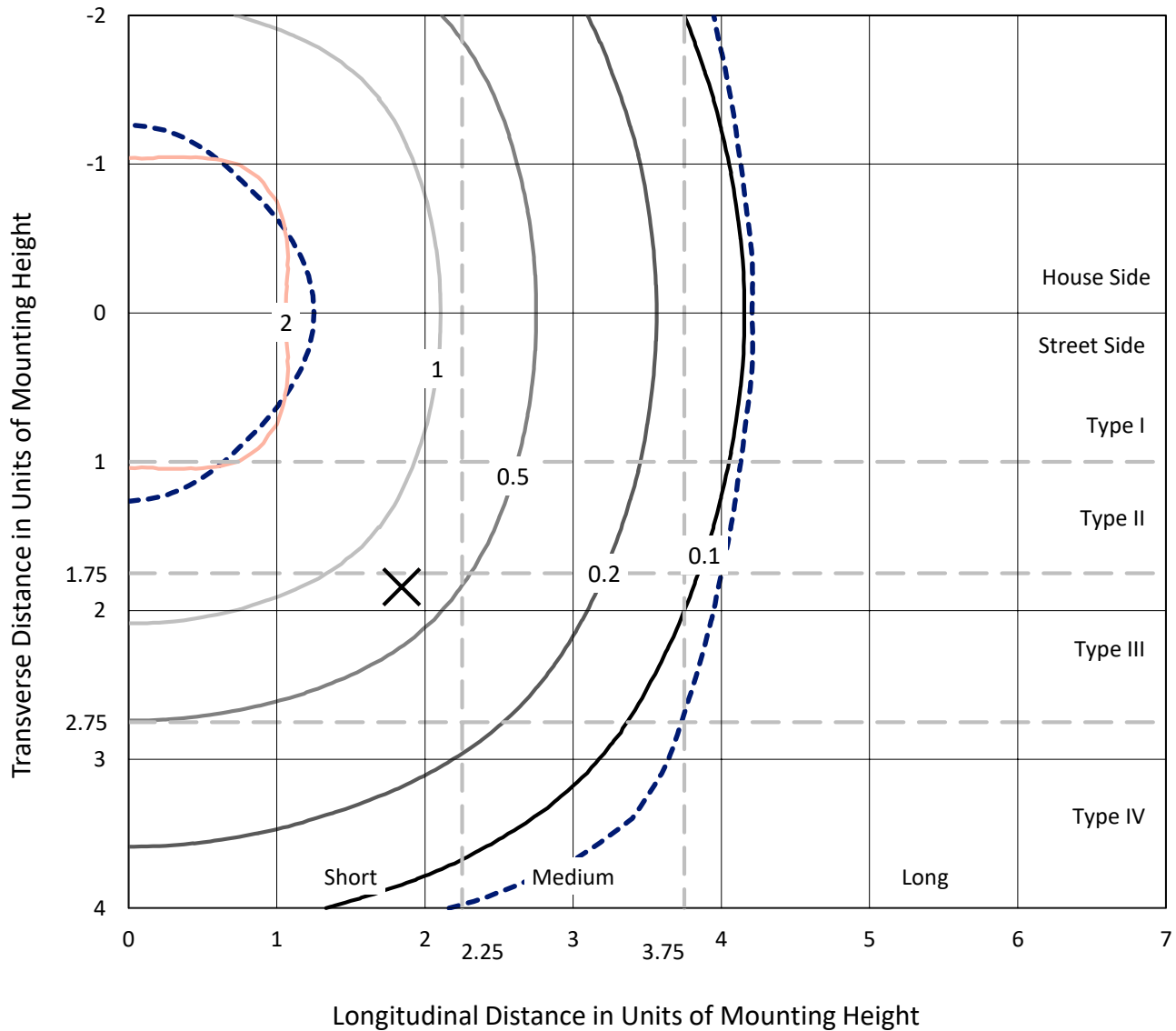
Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

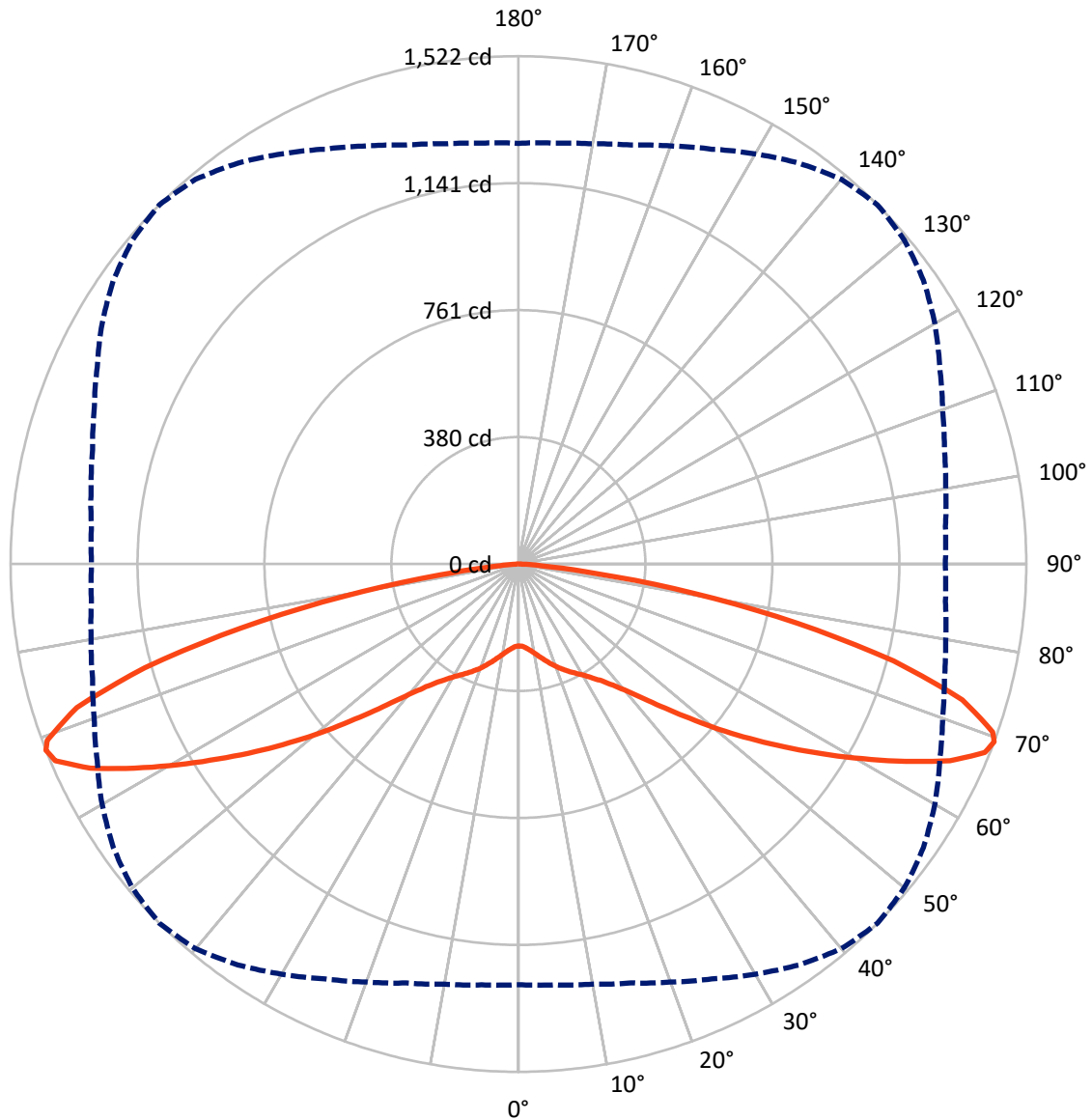
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.7 fc  
 Type V - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2135.9   | 0.0    | 2135.9 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Street Side</b> | Lumens    | 2135.9   | 0.0    | 2135.9 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Total</b>       | Lumens    | 4271.8   | 0.0    | 4271.8 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 24.8   | 0.6       |
| 10°-20°   | 85.4   | 2.0       |
| 20°-30°   | 164.5  | 3.9       |
| 30°-40°   | 269.6  | 6.3       |
| 40°-50°   | 468.9  | 11.0      |
| 50°-60°   | 832.9  | 19.5      |
| 60°-70°   | 1293.1 | 30.3      |
| 70°-80°   | 1030.2 | 24.1      |
| 80°-90°   | 102.4  | 2.4       |
| 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°-90°    | 4271.8 | 100.0     |
| 0°-180°   | 4271.8 | 100.0     |



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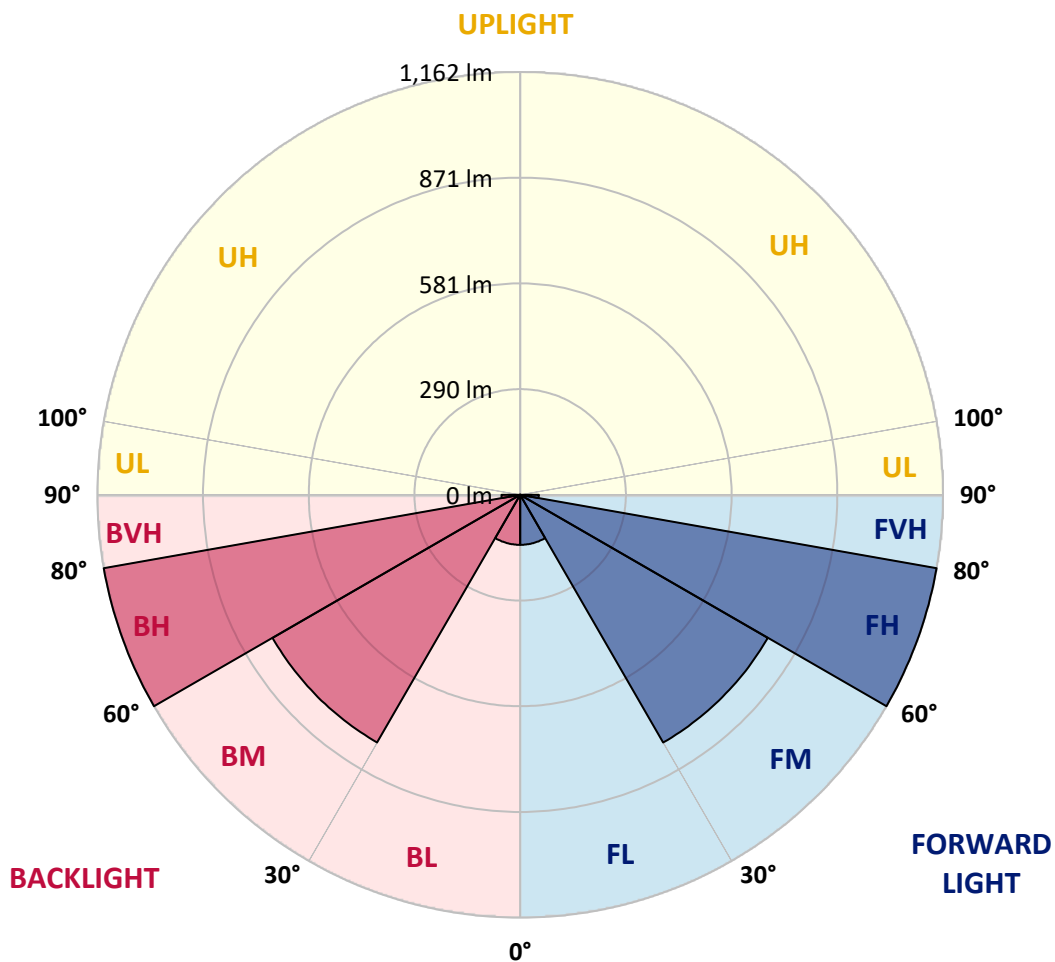
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 137.3  | 3.2       |                         |      |         |
| FM   | (30°-60°)   | 785.7  | 18.4      |                         |      |         |
| FH   | (60°-80°)   | 1161.7 | 27.2      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 51.2   | 1.2       |                         |      | G1/100  |
| BL   | (0°-30°)    | 137.3  | 3.2       | B1/500                  |      |         |
| BM   | (30°-60°)   | 785.7  | 18.4      | B1/1000                 |      |         |
| BH   | (60°-80°)   | 1161.7 | 27.2      | B3/2500                 |      | G1/1800 |
| BVH  | (80°-90°)   | 51.2   | 1.2       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G1**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  |
| 2.5°  | 247.5  | 247.5  | 247.5  | 247.2  | 247.2  | 246.9  | 247.2  | 246.9  | 246.9  | 246.9  | 246.9  |
| 5°    | 253.9  | 253.3  | 253.3  | 253.1  | 253.6  | 253.6  | 253.1  | 253.3  | 253.1  | 253.3  | 253.3  |
| 7.5°  | 262.0  | 262.0  | 262.0  | 261.7  | 262.3  | 262.0  | 261.7  | 262.0  | 262.0  | 261.7  | 261.7  |
| 10°   | 272.0  | 272.3  | 272.0  | 272.0  | 272.8  | 272.6  | 272.8  | 272.8  | 273.1  | 272.8  | 272.8  |
| 12.5° | 283.7  | 283.7  | 284.0  | 284.3  | 284.5  | 284.8  | 285.7  | 285.4  | 285.9  | 285.4  | 285.4  |
| 15°   | 297.4  | 297.9  | 297.4  | 297.4  | 298.2  | 298.8  | 299.0  | 299.0  | 299.6  | 299.3  | 298.8  |
| 17.5° | 311.9  | 312.1  | 311.9  | 311.6  | 312.4  | 313.3  | 313.5  | 313.5  | 314.4  | 313.8  | 313.8  |
| 20°   | 326.6  | 326.9  | 326.4  | 326.1  | 327.2  | 327.2  | 327.7  | 328.0  | 328.9  | 329.1  | 328.3  |
| 22.5° | 340.3  | 340.6  | 340.3  | 340.0  | 341.1  | 341.1  | 342.0  | 342.2  | 343.4  | 343.1  | 343.1  |
| 25°   | 353.7  | 353.7  | 353.4  | 353.4  | 354.5  | 354.8  | 355.6  | 356.2  | 357.3  | 357.3  | 357.3  |
| 27.5° | 365.9  | 366.2  | 365.6  | 365.4  | 367.6  | 368.4  | 369.0  | 370.1  | 370.9  | 371.5  | 371.2  |
| 30°   | 379.9  | 379.9  | 379.6  | 380.4  | 381.8  | 382.9  | 384.0  | 385.7  | 387.4  | 386.8  | 386.8  |
| 32.5° | 396.3  | 396.9  | 396.6  | 397.7  | 399.4  | 401.0  | 402.4  | 404.4  | 405.2  | 406.6  | 405.5  |
| 35°   | 418.3  | 419.4  | 418.9  | 420.0  | 421.4  | 422.5  | 425.6  | 427.5  | 428.9  | 429.7  | 429.2  |
| 37.5° | 445.9  | 445.4  | 446.5  | 446.7  | 449.5  | 450.9  | 454.6  | 457.3  | 459.6  | 460.4  | 459.8  |
| 40°   | 480.2  | 479.4  | 480.7  | 482.1  | 485.8  | 487.2  | 491.3  | 495.5  | 498.6  | 499.7  | 499.1  |
| 42.5° | 521.2  | 522.3  | 524.5  | 526.5  | 531.5  | 535.4  | 540.1  | 546.2  | 549.6  | 551.0  | 549.0  |
| 45°   | 574.9  | 573.0  | 577.2  | 582.2  | 585.0  | 593.6  | 601.4  | 607.8  | 613.4  | 615.6  | 613.4  |
| 47.5° | 636.3  | 636.0  | 641.0  | 647.1  | 654.4  | 662.5  | 671.7  | 680.0  | 689.8  | 690.3  | 687.5  |
| 50°   | 704.0  | 709.6  | 712.3  | 718.5  | 731.9  | 741.9  | 753.6  | 766.1  | 775.0  | 777.8  | 772.8  |
| 52.5° | 785.6  | 789.8  | 791.5  | 801.8  | 814.1  | 826.3  | 842.8  | 857.8  | 868.1  | 869.2  | 866.7  |
| 55°   | 874.3  | 877.6  | 880.7  | 893.2  | 906.6  | 917.5  | 938.4  | 953.1  | 963.4  | 967.3  | 965.7  |
| 57.5° | 966.0  | 969.0  | 972.9  | 986.6  | 1000.2 | 1015.6 | 1035.3 | 1052.6 | 1064.6 | 1071.9 | 1069.9 |
| 60°   | 1067.7 | 1067.7 | 1076.6 | 1090.3 | 1101.4 | 1119.5 | 1140.1 | 1160.2 | 1173.3 | 1184.7 | 1181.7 |
| 62.5° | 1174.7 | 1177.8 | 1186.4 | 1197.5 | 1209.3 | 1226.0 | 1249.4 | 1273.4 | 1293.4 | 1302.1 | 1301.8 |
| 65°   | 1255.8 | 1261.4 | 1272.8 | 1285.6 | 1305.1 | 1324.9 | 1354.5 | 1384.3 | 1408.5 | 1421.1 | 1421.1 |
| 67.5° | 1279.5 | 1283.1 | 1297.3 | 1316.8 | 1345.0 | 1376.5 | 1416.6 | 1458.1 | 1491.3 | 1507.7 | 1497.4 |
| 69°   | 1260.5 | 1265.8 | 1278.4 | 1299.6 | 1333.0 | 1371.5 | 1419.1 | 1466.2 | 1504.7 | 1521.7 | 1509.7 |
| 70°   | 1238.5 | 1244.4 | 1256.9 | 1277.8 | 1312.4 | 1353.3 | 1401.0 | 1451.7 | 1493.0 | 1507.5 | 1493.8 |
| 72.5° | 1148.8 | 1156.0 | 1164.9 | 1183.1 | 1214.3 | 1252.7 | 1295.6 | 1340.2 | 1379.8 | 1391.2 | 1374.2 |
| 75°   | 995.8  | 997.2  | 1001.6 | 1015.0 | 1026.2 | 1053.5 | 1090.0 | 1125.4 | 1155.2 | 1161.9 | 1143.8 |
| 77.5° | 704.8  | 697.3  | 689.8  | 701.2  | 710.1  | 745.2  | 784.8  | 813.8  | 845.0  | 854.5  | 836.1  |
| 80°   | 309.1  | 306.3  | 316.9  | 331.9  | 371.2  | 394.6  | 433.4  | 474.9  | 501.4  | 532.3  | 499.1  |
| 82.5° | 61.0   | 64.4   | 74.4   | 92.0   | 113.4  | 142.7  | 168.1  | 196.8  | 222.7  | 234.4  | 222.4  |
| 85°   | 24.8   | 27.0   | 30.7   | 34.3   | 36.8   | 41.2   | 48.5   | 60.2   | 66.3   | 67.2   | 63.8   |
| 87.5° | 10.3   | 12.0   | 16.2   | 19.2   | 19.5   | 18.7   | 19.2   | 19.8   | 16.2   | 13.1   | 16.4   |
| 90°   | 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):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  | 245.5  |
| 2.5°  | 246.9  | 247.2  | 246.9  | 247.2  | 246.9  | 246.9  | 247.2  | 246.9  |
| 5°    | 253.1  | 253.3  | 253.1  | 252.8  | 252.5  | 252.8  | 252.8  | 252.8  |
| 7.5°  | 261.7  | 261.4  | 261.1  | 261.1  | 260.9  | 260.6  | 261.1  | 261.1  |
| 10°   | 272.3  | 272.0  | 271.4  | 271.4  | 271.2  | 271.2  | 271.2  | 271.2  |
| 12.5° | 285.1  | 284.3  | 284.0  | 283.2  | 282.9  | 282.6  | 282.6  | 282.9  |
| 15°   | 298.5  | 297.6  | 297.4  | 296.0  | 296.0  | 295.7  | 295.7  | 295.7  |
| 17.5° | 312.7  | 311.9  | 310.7  | 310.7  | 309.9  | 309.4  | 309.6  | 309.1  |
| 20°   | 327.2  | 326.1  | 325.5  | 325.2  | 324.1  | 324.1  | 324.1  | 323.8  |
| 22.5° | 341.4  | 340.6  | 339.7  | 338.6  | 337.5  | 337.2  | 337.2  | 336.9  |
| 25°   | 355.9  | 354.5  | 352.8  | 351.7  | 350.6  | 349.8  | 349.8  | 349.8  |
| 27.5° | 370.4  | 368.7  | 366.2  | 364.8  | 363.1  | 362.3  | 362.3  | 362.0  |
| 30°   | 385.7  | 383.8  | 381.5  | 379.6  | 377.4  | 376.5  | 376.2  | 375.7  |
| 32.5° | 404.1  | 402.2  | 399.9  | 397.1  | 394.9  | 393.5  | 393.5  | 392.7  |
| 35°   | 427.5  | 425.3  | 423.6  | 420.0  | 417.2  | 415.0  | 415.3  | 415.8  |
| 37.5° | 458.2  | 455.4  | 454.0  | 449.5  | 445.9  | 443.7  | 443.7  | 443.4  |
| 40°   | 497.2  | 494.4  | 491.3  | 487.2  | 482.7  | 479.6  | 478.8  | 478.8  |
| 42.5° | 546.8  | 544.3  | 540.1  | 534.3  | 529.0  | 525.6  | 522.8  | 523.1  |
| 45°   | 608.9  | 605.9  | 600.0  | 592.8  | 586.4  | 581.6  | 577.7  | 577.7  |
| 47.5° | 684.5  | 678.1  | 670.0  | 663.6  | 652.7  | 645.5  | 642.7  | 642.1  |
| 50°   | 770.6  | 758.6  | 748.6  | 739.4  | 727.9  | 720.4  | 716.2  | 715.1  |
| 52.5° | 860.9  | 848.3  | 835.8  | 823.8  | 809.9  | 802.1  | 795.4  | 794.8  |
| 55°   | 959.0  | 943.1  | 927.2  | 915.5  | 899.1  | 891.0  | 884.3  | 880.4  |
| 57.5° | 1059.0 | 1041.2 | 1029.8 | 1013.1 | 995.8  | 989.9  | 983.5  | 978.8  |
| 60°   | 1171.6 | 1152.1 | 1137.1 | 1119.5 | 1108.4 | 1095.8 | 1089.7 | 1086.1 |
| 62.5° | 1286.7 | 1268.6 | 1249.4 | 1232.7 | 1217.1 | 1208.4 | 1200.1 | 1195.9 |
| 65°   | 1403.8 | 1374.0 | 1351.1 | 1328.0 | 1309.6 | 1294.0 | 1280.9 | 1279.2 |
| 67.5° | 1475.7 | 1438.1 | 1399.9 | 1366.2 | 1339.1 | 1317.1 | 1303.7 | 1299.0 |
| 69°   | 1481.5 | 1440.6 | 1392.9 | 1352.5 | 1321.3 | 1300.1 | 1284.2 | 1279.2 |
| 70°   | 1465.4 | 1424.1 | 1374.0 | 1330.5 | 1298.2 | 1275.0 | 1261.9 | 1253.6 |
| 72.5° | 1347.2 | 1311.0 | 1262.8 | 1219.8 | 1190.6 | 1163.5 | 1150.4 | 1147.1 |
| 75°   | 1111.4 | 1073.0 | 1028.7 | 1008.0 | 987.7  | 970.7  | 961.8  | 960.9  |
| 77.5° | 789.3  | 750.0  | 716.2  | 689.2  | 667.2  | 656.3  | 658.8  | 649.6  |
| 80°   | 451.8  | 400.5  | 359.8  | 335.8  | 303.2  | 283.7  | 261.7  | 277.6  |
| 82.5° | 194.2  | 156.9  | 119.6  | 97.3   | 74.1   | 58.8   | 48.5   | 45.1   |
| 85°   | 54.3   | 44.3   | 37.1   | 34.0   | 30.7   | 27.3   | 23.1   | 21.5   |
| 87.5° | 18.4   | 17.6   | 15.6   | 15.6   | 14.2   | 12.0   | 8.4    | 7.5    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)