

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: P143936

Luminaire Tested: **LDRL-5WQ-F02-E-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P143936
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-7050
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE WIDE
Light Source: (14) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5193.5 lumens
Efficiency: N/A
Efficacy: 94.4 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

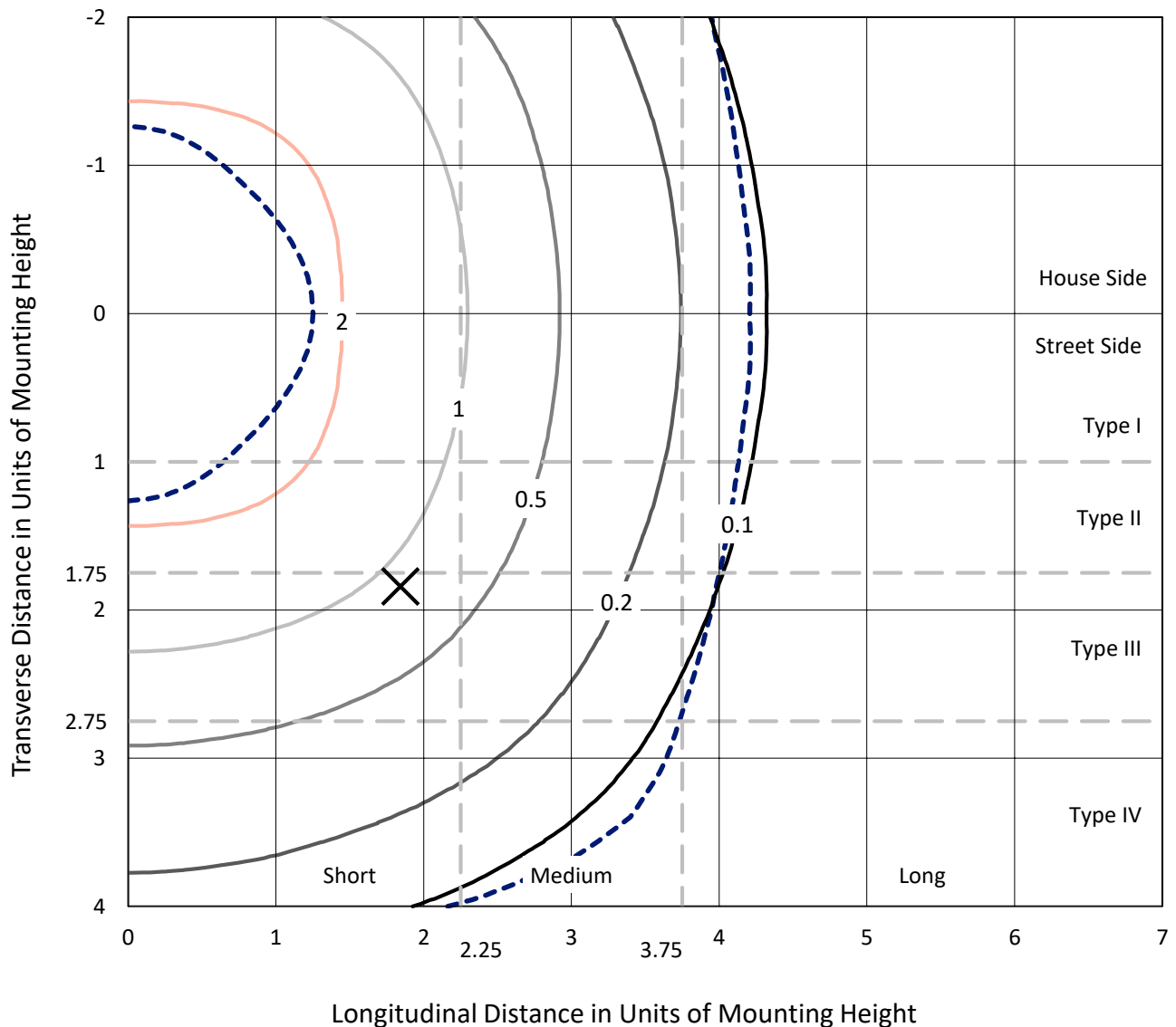
Input Watts (W): 55
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

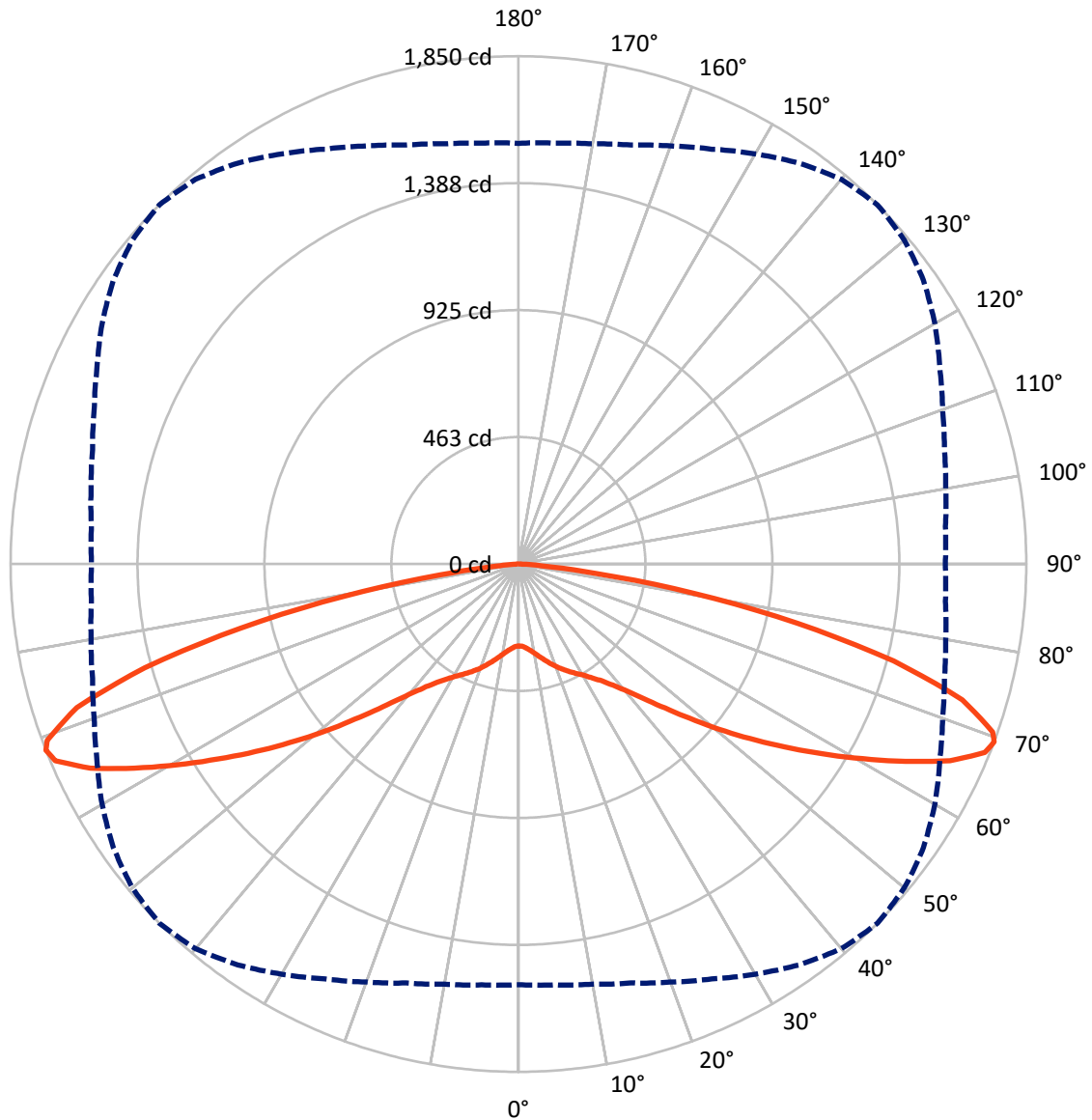
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.3 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 |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 2596.8 | 0.0 | 2596.8 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 2596.8 | 0.0 | 2596.8 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 5193.5 | 0.0 | 5193.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 30.1 | 0.6 |
| 10°-20° | 103.8 | 2.0 |
| 20°-30° | 200.1 | 3.9 |
| 30°-40° | 327.8 | 6.3 |
| 40°-50° | 570.0 | 11.0 |
| 50°-60° | 1012.6 | 19.5 |
| 60°-70° | 1572.1 | 30.3 |
| 70°-80° | 1252.5 | 24.1 |
| 80°-90° | 124.6 | 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° | 5193.5 | 100.0 |
| 0°-180° | 5193.5 | 100.0 |



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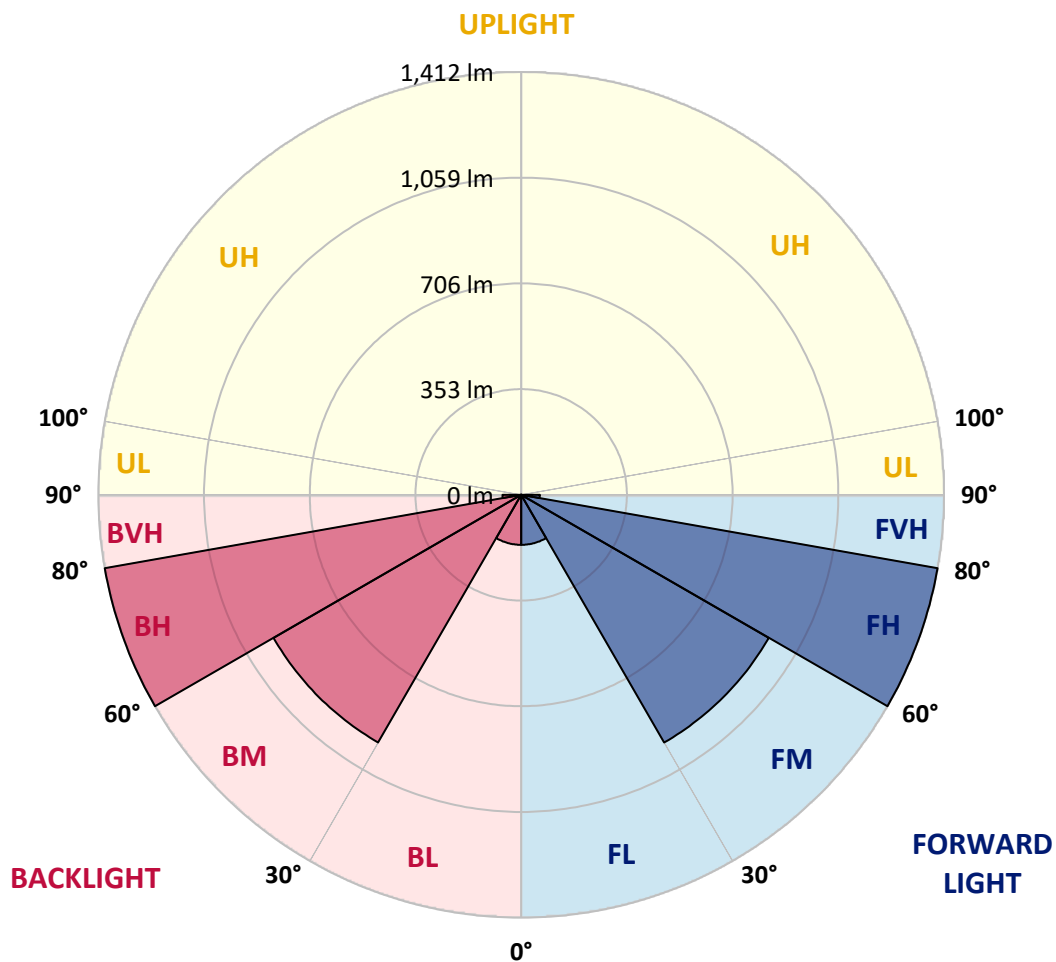
CATALOG NUMBER: LDRL-5WQ-F02-E-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 167.0 | 3.2 | | | |
| FM (30°-60°) | 955.2 | 18.4 | | | |
| FH (60°-80°) | 1412.3 | 27.2 | | | G1/1800 |
| FVH (80°-90°) | 62.3 | 1.2 | | | G1/100 |
| BL (0°-30°) | 167.0 | 3.2 | B1/500 | | |
| BM (30°-60°) | 955.2 | 18.4 | B1/1000 | | |
| BH (60°-80°) | 1412.3 | 27.2 | B3/2500 | | G1/1800 |
| BVH (80°-90°) | 62.3 | 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° | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 |
| 2.5° | 300.9 | 300.9 | 300.9 | 300.5 | 300.5 | 300.2 | 300.5 | 300.2 | 300.2 | 300.2 | 300.2 |
| 5° | 308.7 | 308.0 | 308.0 | 307.7 | 308.3 | 308.3 | 307.7 | 308.0 | 307.7 | 308.0 | 308.0 |
| 7.5° | 318.5 | 318.5 | 318.5 | 318.2 | 318.8 | 318.5 | 318.2 | 318.5 | 318.5 | 318.2 | 318.2 |
| 10° | 330.7 | 331.0 | 330.7 | 330.7 | 331.7 | 331.4 | 331.7 | 331.7 | 332.1 | 331.7 | 331.7 |
| 12.5° | 344.9 | 344.9 | 345.3 | 345.6 | 345.9 | 346.3 | 347.3 | 347.0 | 347.6 | 347.0 | 347.0 |
| 15° | 361.5 | 362.2 | 361.5 | 361.5 | 362.5 | 363.2 | 363.6 | 363.6 | 364.2 | 363.9 | 363.2 |
| 17.5° | 379.2 | 379.5 | 379.2 | 378.8 | 379.8 | 380.8 | 381.2 | 381.2 | 382.2 | 381.5 | 381.5 |
| 20° | 397.1 | 397.4 | 396.8 | 396.4 | 397.8 | 397.8 | 398.5 | 398.8 | 399.8 | 400.2 | 399.1 |
| 22.5° | 413.7 | 414.1 | 413.7 | 413.4 | 414.7 | 414.7 | 415.7 | 416.1 | 417.4 | 417.1 | 417.1 |
| 25° | 430.0 | 430.0 | 429.6 | 429.6 | 431.0 | 431.3 | 432.3 | 433.0 | 434.4 | 434.4 | 434.4 |
| 27.5° | 444.9 | 445.2 | 444.5 | 444.2 | 446.9 | 447.9 | 448.6 | 450.0 | 451.0 | 451.7 | 451.3 |
| 30° | 461.8 | 461.8 | 461.5 | 462.5 | 464.2 | 465.6 | 466.9 | 468.9 | 471.0 | 470.3 | 470.3 |
| 32.5° | 481.8 | 482.5 | 482.2 | 483.5 | 485.5 | 487.6 | 489.3 | 491.6 | 492.7 | 494.4 | 493.0 |
| 35° | 508.6 | 509.9 | 509.3 | 510.6 | 512.3 | 513.7 | 517.4 | 519.8 | 521.5 | 522.5 | 521.8 |
| 37.5° | 542.1 | 541.5 | 542.8 | 543.1 | 546.5 | 548.2 | 552.6 | 556.0 | 558.7 | 559.7 | 559.1 |
| 40° | 583.8 | 582.8 | 584.5 | 586.2 | 590.6 | 592.3 | 597.4 | 602.4 | 606.2 | 607.5 | 606.8 |
| 42.5° | 633.6 | 635.0 | 637.7 | 640.1 | 646.1 | 650.9 | 656.7 | 664.1 | 668.2 | 669.9 | 667.5 |
| 45° | 699.0 | 696.6 | 701.7 | 707.8 | 711.2 | 721.7 | 731.2 | 739.0 | 745.8 | 748.5 | 745.8 |
| 47.5° | 773.5 | 773.2 | 779.3 | 786.8 | 795.6 | 805.4 | 816.6 | 826.7 | 838.6 | 839.3 | 835.9 |
| 50° | 855.9 | 862.7 | 866.1 | 873.5 | 889.8 | 902.0 | 916.2 | 931.4 | 942.3 | 945.7 | 939.6 |
| 52.5° | 955.2 | 960.2 | 962.3 | 974.8 | 989.7 | 1004.6 | 1024.6 | 1042.9 | 1055.5 | 1056.8 | 1053.8 |
| 55° | 1062.9 | 1067.0 | 1070.7 | 1086.0 | 1102.2 | 1115.4 | 1140.8 | 1158.8 | 1171.3 | 1176.1 | 1174.0 |
| 57.5° | 1174.4 | 1178.1 | 1182.9 | 1199.5 | 1216.1 | 1234.7 | 1258.8 | 1279.8 | 1294.3 | 1303.1 | 1300.8 |
| 60° | 1298.1 | 1298.1 | 1308.9 | 1325.5 | 1339.1 | 1361.1 | 1386.2 | 1410.6 | 1426.5 | 1440.4 | 1436.6 |
| 62.5° | 1428.2 | 1431.9 | 1442.4 | 1456.0 | 1470.2 | 1490.5 | 1519.0 | 1548.1 | 1572.5 | 1583.0 | 1582.7 |
| 65° | 1526.8 | 1533.5 | 1547.4 | 1563.0 | 1586.7 | 1610.8 | 1646.7 | 1683.0 | 1712.4 | 1727.7 | 1727.7 |
| 67.5° | 1555.6 | 1560.0 | 1577.3 | 1601.0 | 1635.2 | 1673.5 | 1722.3 | 1772.8 | 1813.1 | 1833.1 | 1820.5 |
| 69° | 1532.5 | 1539.0 | 1554.2 | 1580.0 | 1620.6 | 1667.4 | 1725.3 | 1782.6 | 1829.3 | 1850.0 | 1835.4 |
| 70° | 1505.8 | 1512.9 | 1528.1 | 1553.5 | 1595.6 | 1645.4 | 1703.3 | 1765.0 | 1815.1 | 1832.7 | 1816.1 |
| 72.5° | 1396.7 | 1405.5 | 1416.3 | 1438.3 | 1476.3 | 1523.0 | 1575.2 | 1629.4 | 1677.5 | 1691.4 | 1670.8 |
| 75° | 1210.6 | 1212.3 | 1217.8 | 1234.0 | 1247.6 | 1280.8 | 1325.2 | 1368.2 | 1404.5 | 1412.6 | 1390.6 |
| 77.5° | 856.9 | 847.8 | 838.6 | 852.5 | 863.3 | 906.0 | 954.1 | 989.4 | 1027.3 | 1038.9 | 1016.5 |
| 80° | 375.8 | 372.4 | 385.2 | 403.5 | 451.3 | 479.8 | 526.9 | 577.4 | 609.6 | 647.2 | 606.8 |
| 82.5° | 74.2 | 78.3 | 90.5 | 111.8 | 137.9 | 173.5 | 204.3 | 239.2 | 270.7 | 285.0 | 270.4 |
| 85° | 30.2 | 32.9 | 37.3 | 41.7 | 44.7 | 50.1 | 59.0 | 73.2 | 80.6 | 81.7 | 77.6 |
| 87.5° | 12.5 | 14.6 | 19.7 | 23.4 | 23.7 | 22.7 | 23.4 | 24.1 | 19.7 | 15.9 | 20.0 |
| 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° | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 | 298.5 |
| 2.5° | 300.2 | 300.5 | 300.2 | 300.5 | 300.2 | 300.2 | 300.5 | 300.2 |
| 5° | 307.7 | 308.0 | 307.7 | 307.3 | 307.0 | 307.3 | 307.3 | 307.3 |
| 7.5° | 318.2 | 317.8 | 317.5 | 317.5 | 317.1 | 316.8 | 317.5 | 317.5 |
| 10° | 331.0 | 330.7 | 330.0 | 330.0 | 329.7 | 329.7 | 329.7 | 329.7 |
| 12.5° | 346.6 | 345.6 | 345.3 | 344.3 | 343.9 | 343.6 | 343.6 | 343.9 |
| 15° | 362.9 | 361.9 | 361.5 | 359.8 | 359.8 | 359.5 | 359.5 | 359.5 |
| 17.5° | 380.2 | 379.2 | 377.8 | 377.8 | 376.8 | 376.1 | 376.4 | 375.8 |
| 20° | 397.8 | 396.4 | 395.8 | 395.4 | 394.1 | 394.1 | 394.1 | 393.7 |
| 22.5° | 415.1 | 414.1 | 413.0 | 411.7 | 410.3 | 410.0 | 410.0 | 409.6 |
| 25° | 432.7 | 431.0 | 429.0 | 427.6 | 426.2 | 425.2 | 425.2 | 425.2 |
| 27.5° | 450.3 | 448.3 | 445.2 | 443.5 | 441.5 | 440.5 | 440.5 | 440.1 |
| 30° | 468.9 | 466.6 | 463.9 | 461.5 | 458.8 | 457.8 | 457.4 | 456.7 |
| 32.5° | 491.3 | 488.9 | 486.2 | 482.8 | 480.1 | 478.4 | 478.4 | 477.4 |
| 35° | 519.8 | 517.1 | 515.0 | 510.6 | 507.2 | 504.5 | 504.9 | 505.5 |
| 37.5° | 557.0 | 553.6 | 552.0 | 546.5 | 542.1 | 539.4 | 539.4 | 539.1 |
| 40° | 604.5 | 601.1 | 597.4 | 592.3 | 586.9 | 583.1 | 582.1 | 582.1 |
| 42.5° | 664.8 | 661.7 | 656.7 | 649.5 | 643.1 | 639.0 | 635.6 | 636.0 |
| 45° | 740.3 | 736.6 | 729.5 | 720.7 | 712.9 | 707.1 | 702.4 | 702.4 |
| 47.5° | 832.2 | 824.4 | 814.5 | 806.8 | 793.5 | 784.7 | 781.3 | 780.7 |
| 50° | 936.9 | 922.3 | 910.1 | 898.9 | 885.0 | 875.9 | 870.8 | 869.4 |
| 52.5° | 1046.6 | 1031.4 | 1016.2 | 1001.6 | 984.6 | 975.2 | 967.0 | 966.3 |
| 55° | 1165.9 | 1146.6 | 1127.3 | 1113.1 | 1093.1 | 1083.2 | 1075.1 | 1070.4 |
| 57.5° | 1287.6 | 1265.9 | 1252.0 | 1231.6 | 1210.6 | 1203.5 | 1195.7 | 1190.0 |
| 60° | 1424.4 | 1400.7 | 1382.4 | 1361.1 | 1347.5 | 1332.3 | 1324.8 | 1320.4 |
| 62.5° | 1564.4 | 1542.4 | 1519.0 | 1498.6 | 1479.7 | 1469.2 | 1459.0 | 1453.9 |
| 65° | 1706.7 | 1670.4 | 1642.6 | 1614.5 | 1592.2 | 1573.2 | 1557.3 | 1555.2 |
| 67.5° | 1794.1 | 1748.4 | 1701.9 | 1660.9 | 1628.1 | 1601.3 | 1585.0 | 1579.3 |
| 69° | 1801.2 | 1751.4 | 1693.5 | 1644.3 | 1606.4 | 1580.6 | 1561.3 | 1555.2 |
| 70° | 1781.6 | 1731.4 | 1670.4 | 1617.6 | 1578.3 | 1550.1 | 1534.2 | 1524.1 |
| 72.5° | 1637.9 | 1593.9 | 1535.2 | 1483.1 | 1447.5 | 1414.6 | 1398.7 | 1394.6 |
| 75° | 1351.3 | 1304.5 | 1250.6 | 1225.5 | 1200.8 | 1180.1 | 1169.3 | 1168.3 |
| 77.5° | 959.6 | 911.8 | 870.8 | 837.9 | 811.2 | 797.9 | 801.0 | 789.8 |
| 80° | 549.2 | 486.9 | 437.4 | 408.3 | 368.6 | 344.9 | 318.2 | 337.5 |
| 82.5° | 236.2 | 190.8 | 145.4 | 118.3 | 90.1 | 71.5 | 59.0 | 54.9 |
| 85° | 66.1 | 53.9 | 45.1 | 41.3 | 37.3 | 33.2 | 28.1 | 26.1 |
| 87.5° | 22.4 | 21.3 | 19.0 | 19.0 | 17.3 | 14.6 | 10.2 | 9.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)