

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: P143975

Luminaire Tested: **LDRL-5WQ-F06-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P143975
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-F06-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE WIDE
Light Source: (42) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15184.2 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B4 - U0 - G2

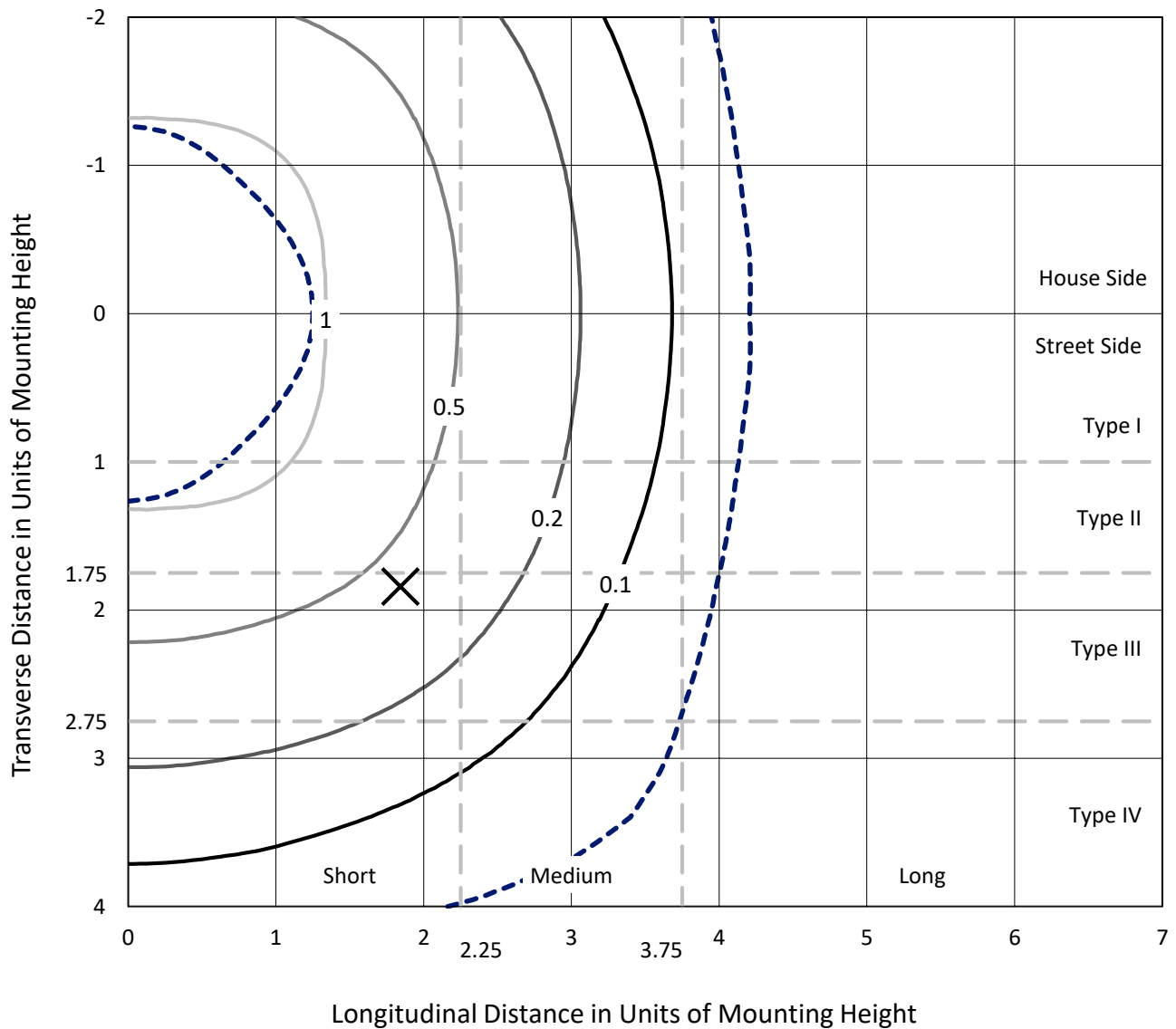
Input Watts (W): 156.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

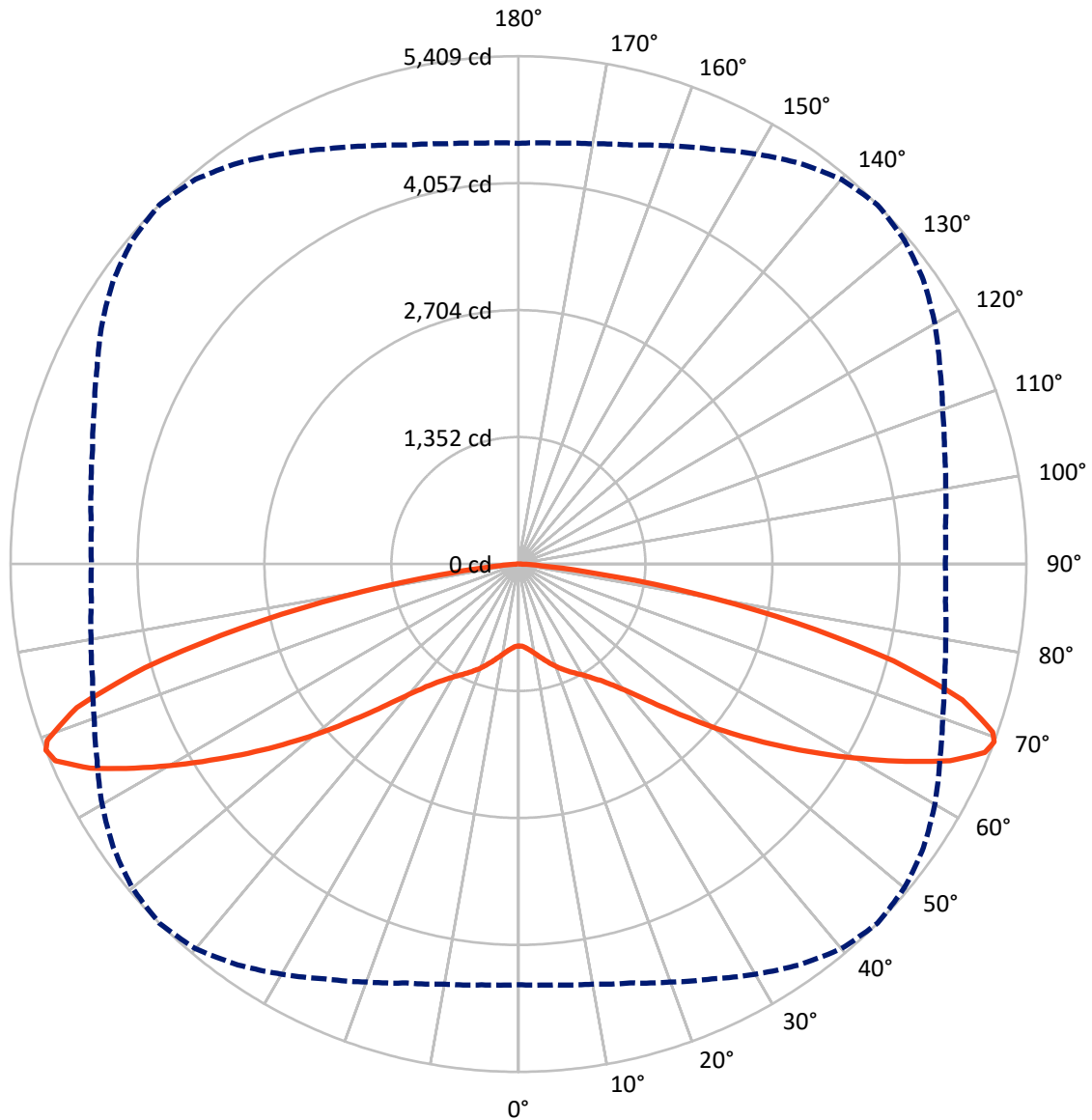
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.6 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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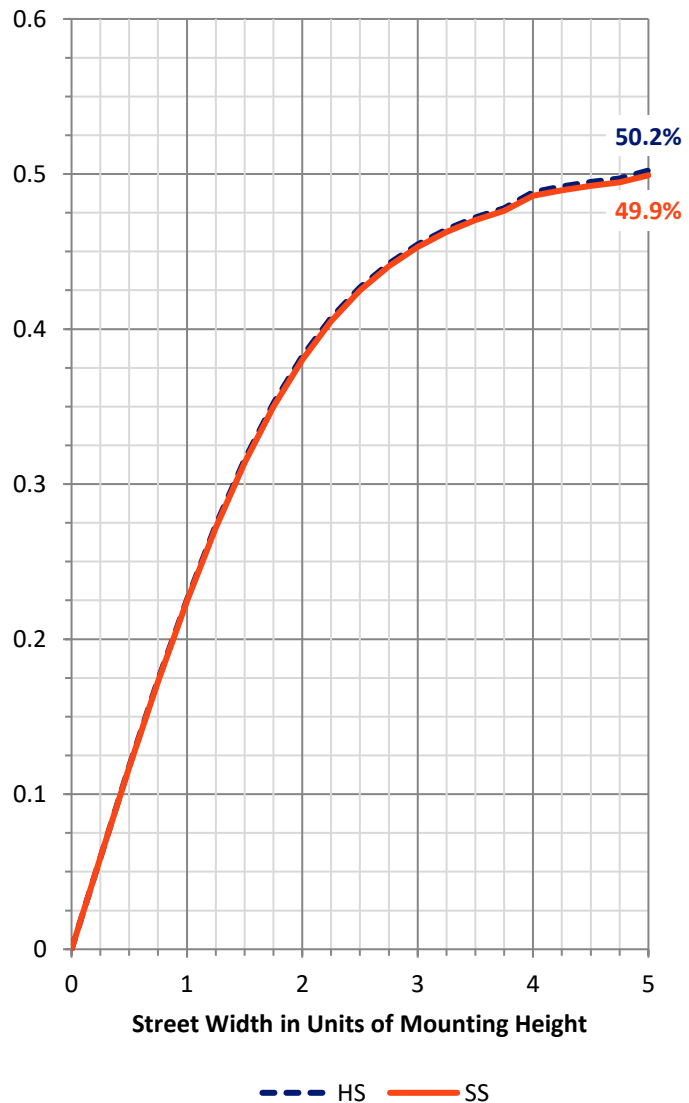
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 7592.1 | 0.0 | 7592.1 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 7592.1 | 0.0 | 7592.1 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 15184.2 | 0.0 | 15184.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 88.0 | 0.6 |
| 10°-20° | 303.4 | 2.0 |
| 20°-30° | 584.9 | 3.9 |
| 30°-40° | 958.5 | 6.3 |
| 40°-50° | 1666.6 | 11.0 |
| 50°-60° | 2960.4 | 19.5 |
| 60°-70° | 4596.3 | 30.3 |
| 70°-80° | 3662.0 | 24.1 |
| 80°-90° | 364.1 | 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° | 15184.2 | 100.0 |
| 0°-180° | 15184.2 | 100.0 |



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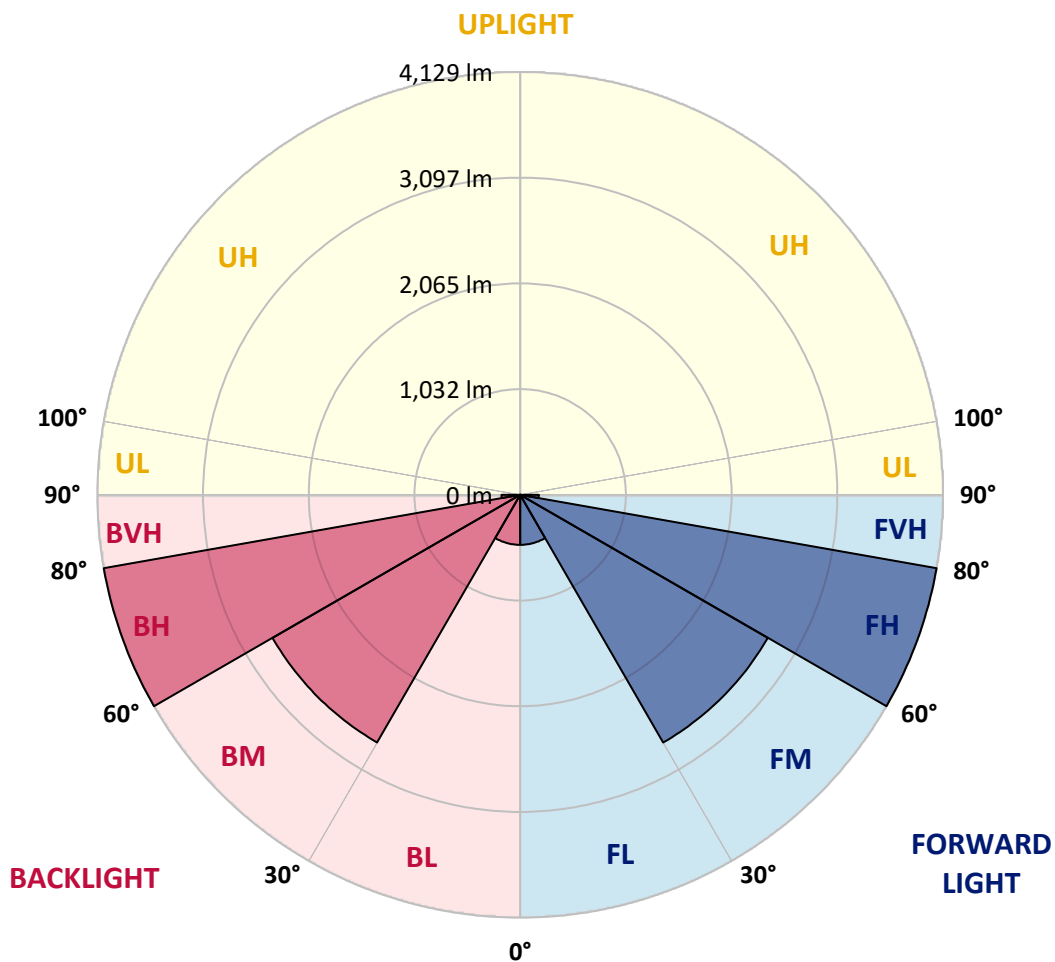
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 488.2 | 3.2 | | | |
| FM | (30°-60°) | 2792.7 | 18.4 | | | |
| FH | (60°-80°) | 4129.1 | 27.2 | | | G2/5000 |
| FVH | (80°-90°) | 182.1 | 1.2 | | | G2/225 |
| BL | (0°-30°) | 488.2 | 3.2 | B1/500 | | |
| BM | (30°-60°) | 2792.7 | 18.4 | B3/5000 | | |
| BH | (60°-80°) | 4129.1 | 27.2 | B4/5000 | | G2/5000 |
| BVH | (80°-90°) | 182.1 | 1.2 | | | G2/225 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 |
| 2.5° | 879.7 | 879.7 | 879.7 | 878.7 | 878.7 | 877.7 | 878.7 | 877.7 | 877.7 | 877.7 | 877.7 |
| 5° | 902.5 | 900.5 | 900.5 | 899.5 | 901.5 | 901.5 | 899.5 | 900.5 | 899.5 | 900.5 | 900.5 |
| 7.5° | 931.2 | 931.2 | 931.2 | 930.2 | 932.2 | 931.2 | 930.2 | 931.2 | 931.2 | 930.2 | 930.2 |
| 10° | 966.9 | 967.8 | 966.9 | 966.9 | 969.8 | 968.8 | 969.8 | 969.8 | 970.8 | 969.8 | 969.8 |
| 12.5° | 1008.5 | 1008.5 | 1009.5 | 1010.4 | 1011.4 | 1012.4 | 1015.4 | 1014.4 | 1016.4 | 1014.4 | 1014.4 |
| 15° | 1057.0 | 1059.0 | 1057.0 | 1057.0 | 1060.0 | 1062.0 | 1062.9 | 1062.9 | 1064.9 | 1063.9 | 1062.0 |
| 17.5° | 1108.5 | 1109.5 | 1108.5 | 1107.5 | 1110.5 | 1113.5 | 1114.5 | 1114.5 | 1117.4 | 1115.4 | 1115.4 |
| 20° | 1161.0 | 1162.0 | 1160.0 | 1159.0 | 1163.0 | 1163.0 | 1165.0 | 1166.0 | 1168.9 | 1169.9 | 1167.0 |
| 22.5° | 1209.6 | 1210.5 | 1209.6 | 1208.6 | 1212.5 | 1212.5 | 1215.5 | 1216.5 | 1220.5 | 1219.5 | 1219.5 |
| 25° | 1257.1 | 1257.1 | 1256.1 | 1256.1 | 1260.1 | 1261.1 | 1264.0 | 1266.0 | 1270.0 | 1270.0 | 1270.0 |
| 27.5° | 1300.7 | 1301.7 | 1299.7 | 1298.7 | 1306.6 | 1309.6 | 1311.6 | 1315.6 | 1318.5 | 1320.5 | 1319.5 |
| 30° | 1350.2 | 1350.2 | 1349.2 | 1352.2 | 1357.2 | 1361.1 | 1365.1 | 1371.0 | 1377.0 | 1375.0 | 1375.0 |
| 32.5° | 1408.7 | 1410.7 | 1409.7 | 1413.6 | 1419.6 | 1425.5 | 1430.5 | 1437.4 | 1440.4 | 1445.3 | 1441.4 |
| 35° | 1486.9 | 1490.9 | 1488.9 | 1492.9 | 1497.8 | 1501.8 | 1512.7 | 1519.6 | 1524.6 | 1527.6 | 1525.6 |
| 37.5° | 1585.0 | 1583.0 | 1587.0 | 1588.0 | 1597.9 | 1602.8 | 1615.7 | 1625.6 | 1633.5 | 1636.5 | 1634.5 |
| 40° | 1706.9 | 1703.9 | 1708.8 | 1713.8 | 1726.7 | 1731.6 | 1746.5 | 1761.3 | 1772.2 | 1776.2 | 1774.2 |
| 42.5° | 1852.5 | 1856.4 | 1864.4 | 1871.3 | 1889.1 | 1903.0 | 1919.8 | 1941.6 | 1953.5 | 1958.5 | 1951.5 |
| 45° | 2043.7 | 2036.7 | 2051.6 | 2069.4 | 2079.3 | 2110.0 | 2137.8 | 2160.6 | 2180.4 | 2188.3 | 2180.4 |
| 47.5° | 2261.6 | 2260.6 | 2278.4 | 2300.2 | 2326.0 | 2354.7 | 2387.4 | 2417.1 | 2451.8 | 2453.8 | 2443.9 |
| 50° | 2502.3 | 2522.1 | 2532.1 | 2553.8 | 2601.4 | 2637.1 | 2678.7 | 2723.2 | 2754.9 | 2764.8 | 2747.0 |
| 52.5° | 2792.6 | 2807.4 | 2813.4 | 2850.0 | 2893.6 | 2937.2 | 2995.7 | 3049.2 | 3085.8 | 3089.8 | 3080.9 |
| 55° | 3107.6 | 3119.5 | 3130.4 | 3175.0 | 3222.5 | 3261.2 | 3335.5 | 3388.0 | 3424.6 | 3438.5 | 3432.5 |
| 57.5° | 3433.5 | 3444.4 | 3458.3 | 3506.8 | 3555.4 | 3609.9 | 3680.2 | 3741.6 | 3784.2 | 3810.0 | 3803.0 |
| 60° | 3795.1 | 3795.1 | 3826.8 | 3875.3 | 3915.0 | 3979.4 | 4052.7 | 4124.0 | 4170.6 | 4211.2 | 4200.3 |
| 62.5° | 4175.5 | 4186.4 | 4217.1 | 4256.7 | 4298.3 | 4357.8 | 4441.0 | 4526.2 | 4597.5 | 4628.2 | 4627.2 |
| 65° | 4463.8 | 4483.6 | 4524.2 | 4569.8 | 4639.1 | 4709.5 | 4814.5 | 4920.5 | 5006.6 | 5051.2 | 5051.2 |
| 67.5° | 4548.0 | 4560.9 | 4611.4 | 4680.7 | 4780.8 | 4892.7 | 5035.4 | 5183.0 | 5300.9 | 5359.3 | 5322.7 |
| 69° | 4480.6 | 4499.4 | 4544.0 | 4619.3 | 4738.2 | 4874.9 | 5044.3 | 5211.7 | 5348.4 | 5408.8 | 5366.2 |
| 70° | 4402.4 | 4423.2 | 4467.7 | 4542.0 | 4664.9 | 4810.5 | 4979.9 | 5160.2 | 5306.8 | 5358.3 | 5309.8 |
| 72.5° | 4083.4 | 4109.1 | 4140.8 | 4205.2 | 4316.2 | 4452.9 | 4605.4 | 4763.9 | 4904.6 | 4945.2 | 4884.8 |
| 75° | 3539.5 | 3544.5 | 3560.3 | 3607.9 | 3647.5 | 3744.6 | 3874.4 | 4000.2 | 4106.2 | 4129.9 | 4065.5 |
| 77.5° | 2505.3 | 2478.6 | 2451.8 | 2492.4 | 2524.1 | 2648.9 | 2789.6 | 2892.6 | 3003.6 | 3037.3 | 2971.9 |
| 80° | 1098.6 | 1088.7 | 1126.3 | 1179.8 | 1319.5 | 1402.7 | 1540.4 | 1688.0 | 1782.1 | 1892.1 | 1774.2 |
| 82.5° | 216.9 | 228.8 | 264.5 | 326.9 | 403.2 | 507.2 | 597.3 | 699.4 | 791.5 | 833.1 | 790.5 |
| 85° | 88.2 | 96.1 | 109.0 | 121.8 | 130.8 | 146.6 | 172.4 | 214.0 | 235.8 | 238.7 | 226.9 |
| 87.5° | 36.7 | 42.6 | 57.5 | 68.4 | 69.3 | 66.4 | 68.4 | 70.3 | 57.5 | 46.6 | 58.4 |
| 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° | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 | 872.7 |
| 2.5° | 877.7 | 878.7 | 877.7 | 878.7 | 877.7 | 877.7 | 878.7 | 877.7 |
| 5° | 899.5 | 900.5 | 899.5 | 898.5 | 897.5 | 898.5 | 898.5 | 898.5 |
| 7.5° | 930.2 | 929.2 | 928.2 | 928.2 | 927.2 | 926.2 | 928.2 | 928.2 |
| 10° | 967.8 | 966.9 | 964.9 | 964.9 | 963.9 | 963.9 | 963.9 | 963.9 |
| 12.5° | 1013.4 | 1010.4 | 1009.5 | 1006.5 | 1005.5 | 1004.5 | 1004.5 | 1005.5 |
| 15° | 1061.0 | 1058.0 | 1057.0 | 1052.0 | 1052.0 | 1051.1 | 1051.1 | 1051.1 |
| 17.5° | 1111.5 | 1108.5 | 1104.6 | 1104.6 | 1101.6 | 1099.6 | 1100.6 | 1098.6 |
| 20° | 1163.0 | 1159.0 | 1157.1 | 1156.1 | 1152.1 | 1152.1 | 1152.1 | 1151.1 |
| 22.5° | 1213.5 | 1210.5 | 1207.6 | 1203.6 | 1199.7 | 1198.7 | 1198.7 | 1197.7 |
| 25° | 1265.0 | 1260.1 | 1254.1 | 1250.2 | 1246.2 | 1243.2 | 1243.2 | 1243.2 |
| 27.5° | 1316.5 | 1310.6 | 1301.7 | 1296.7 | 1290.8 | 1287.8 | 1287.8 | 1286.8 |
| 30° | 1371.0 | 1364.1 | 1356.2 | 1349.2 | 1341.3 | 1338.3 | 1337.4 | 1335.4 |
| 32.5° | 1436.4 | 1429.5 | 1421.6 | 1411.6 | 1403.7 | 1398.8 | 1398.8 | 1395.8 |
| 35° | 1519.6 | 1511.7 | 1505.8 | 1492.9 | 1483.0 | 1475.0 | 1476.0 | 1478.0 |
| 37.5° | 1628.6 | 1618.7 | 1613.7 | 1597.9 | 1585.0 | 1577.1 | 1577.1 | 1576.1 |
| 40° | 1767.3 | 1757.4 | 1746.5 | 1731.6 | 1715.8 | 1704.9 | 1701.9 | 1701.9 |
| 42.5° | 1943.6 | 1934.7 | 1919.8 | 1899.0 | 1880.2 | 1868.3 | 1858.4 | 1859.4 |
| 45° | 2164.5 | 2153.6 | 2132.8 | 2107.1 | 2084.3 | 2067.4 | 2053.6 | 2053.6 |
| 47.5° | 2433.0 | 2410.2 | 2381.5 | 2358.7 | 2320.1 | 2294.3 | 2284.4 | 2282.4 |
| 50° | 2739.1 | 2696.5 | 2660.8 | 2628.1 | 2587.5 | 2560.8 | 2545.9 | 2542.0 |
| 52.5° | 3060.1 | 3015.5 | 2970.9 | 2928.3 | 2878.8 | 2851.0 | 2827.3 | 2825.3 |
| 55° | 3408.8 | 3352.3 | 3295.8 | 3254.2 | 3195.8 | 3167.0 | 3143.3 | 3129.4 |
| 57.5° | 3764.4 | 3701.0 | 3660.4 | 3600.9 | 3539.5 | 3518.7 | 3495.9 | 3479.1 |
| 60° | 4164.6 | 4095.3 | 4041.8 | 3979.4 | 3939.7 | 3895.2 | 3873.4 | 3860.5 |
| 62.5° | 4573.7 | 4509.3 | 4441.0 | 4381.6 | 4326.1 | 4295.4 | 4265.7 | 4250.8 |
| 65° | 4989.8 | 4883.8 | 4802.6 | 4720.4 | 4655.0 | 4599.5 | 4552.9 | 4547.0 |
| 67.5° | 5245.4 | 5111.7 | 4975.9 | 4856.1 | 4760.0 | 4681.7 | 4634.2 | 4617.3 |
| 69° | 5266.2 | 5120.6 | 4951.2 | 4807.5 | 4696.6 | 4621.3 | 4564.8 | 4547.0 |
| 70° | 5208.7 | 5062.1 | 4883.8 | 4729.3 | 4614.4 | 4532.1 | 4485.6 | 4455.9 |
| 72.5° | 4788.7 | 4659.9 | 4488.5 | 4336.0 | 4232.0 | 4135.9 | 4089.3 | 4077.4 |
| 75° | 3950.6 | 3813.9 | 3656.4 | 3583.1 | 3510.8 | 3450.4 | 3418.7 | 3415.7 |
| 77.5° | 2805.5 | 2665.8 | 2545.9 | 2449.8 | 2371.6 | 2332.9 | 2341.8 | 2309.2 |
| 80° | 1605.8 | 1423.5 | 1278.9 | 1193.7 | 1077.8 | 1008.5 | 930.2 | 986.7 |
| 82.5° | 690.5 | 557.7 | 425.0 | 345.7 | 263.5 | 209.0 | 172.4 | 160.5 |
| 85° | 193.2 | 157.5 | 131.8 | 120.9 | 109.0 | 97.1 | 82.2 | 76.3 |
| 87.5° | 65.4 | 62.4 | 55.5 | 55.5 | 50.5 | 42.6 | 29.7 | 26.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)