

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: P144258

Luminaire Tested: **LDRL-5XQ-E05-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P144258
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33699)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-5XQ-E05-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE EXTRA WIDE
Light Source: (105) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13048.5 lumens
Efficiency: N/A
Efficacy: 102.5 lumens/watt
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')
IES Classification: Type V - Short - Non-Cutoff
BUG Rating: B4 - U0 - G3

Input Watts (W): 127.3
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

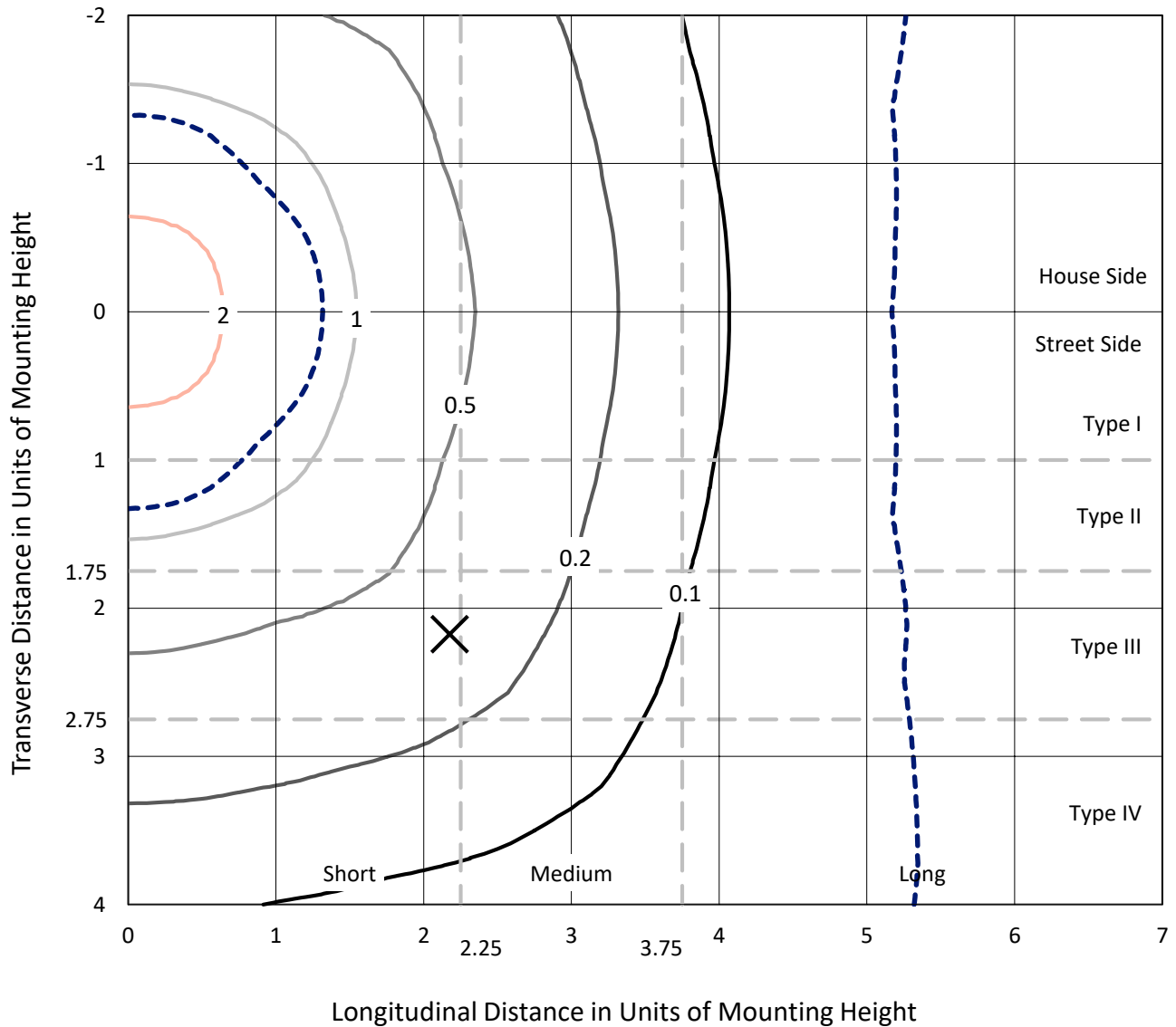


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

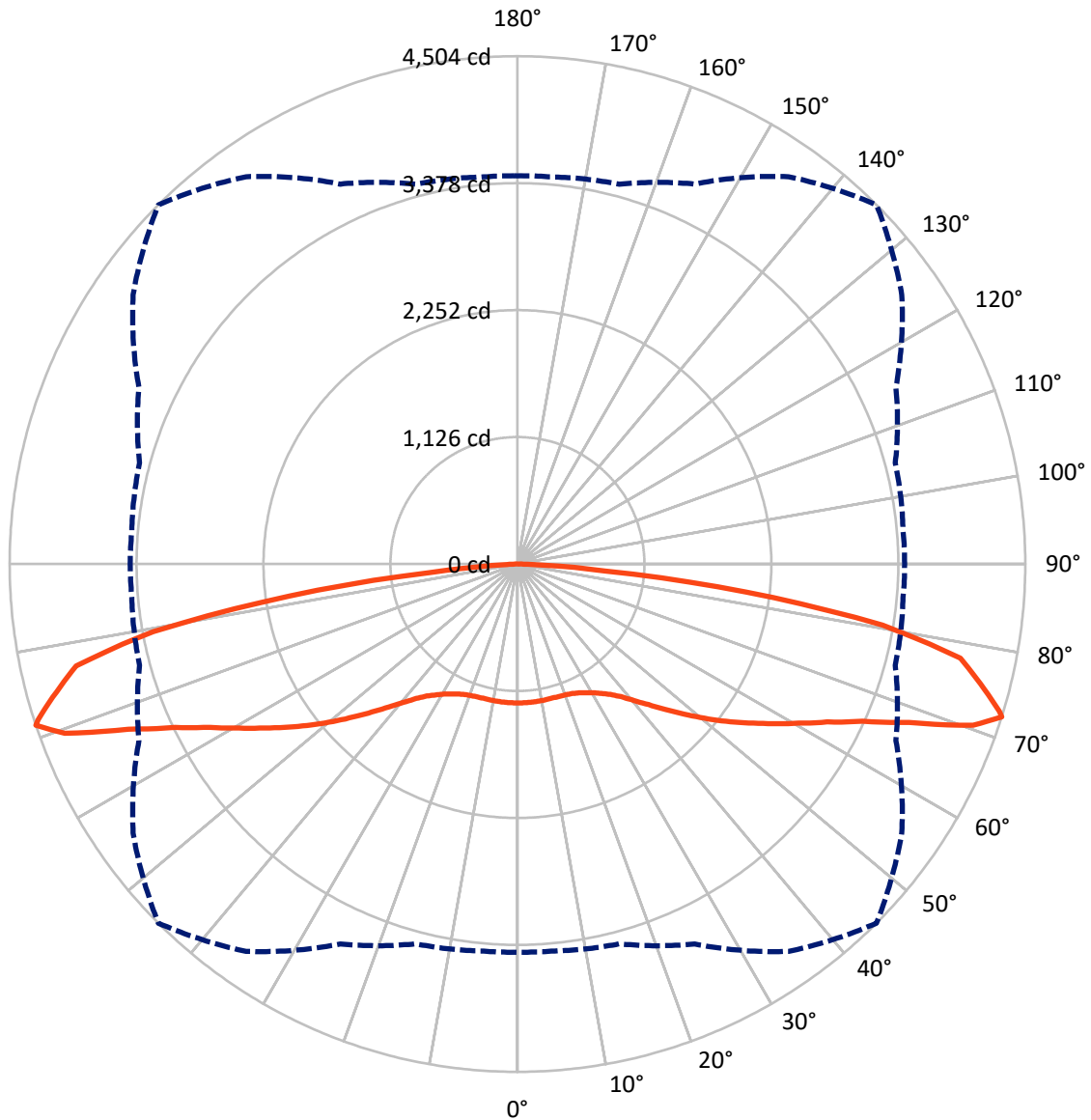


Based on 20 foot mounting height. Maximum calculated value = 3.1 fc
 Type V - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 6524.3 | 0.0 | 6524.3 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 6524.3 | 0.0 | 6524.3 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 13048.5 | 0.0 | 13048.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 117.6 | 0.9 |
| 10°-20° | 349.4 | 2.7 |
| 20°-30° | 586.8 | 4.5 |
| 30°-40° | 893.2 | 6.8 |
| 40°-50° | 1412.0 | 10.8 |
| 50°-60° | 2156.6 | 16.5 |
| 60°-70° | 3159.5 | 24.2 |
| 70°-80° | 3589.4 | 27.5 |
| 80°-90° | 784.0 | 6.0 |
| 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°-90° | 13048.5 | 100.0 |
| 0°-180° | 13048.5 | 100.0 |



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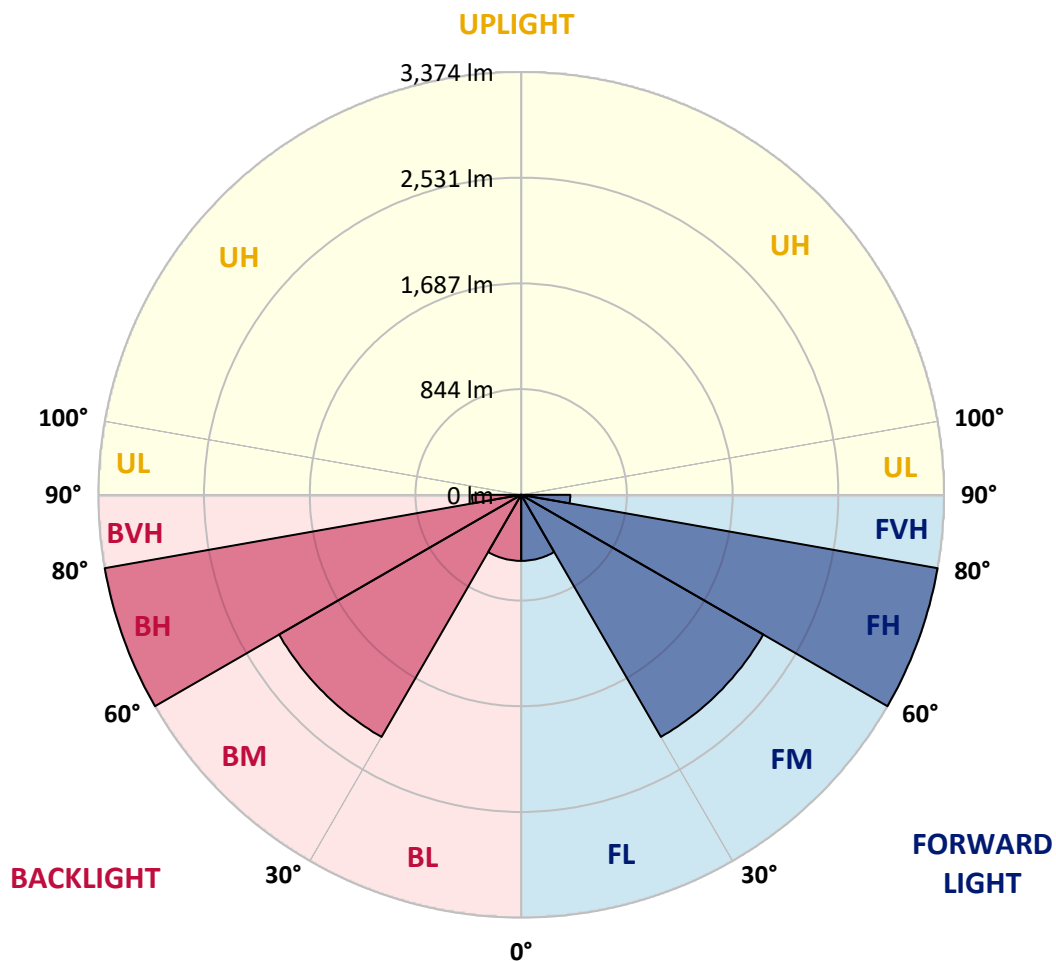
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 526.9 | 4.0 | | | |
| FM (30°-60°) | 2230.9 | 17.1 | | | |
| FH (60°-80°) | 3374.5 | 25.9 | | | G2/5000 |
| FVH (80°-90°) | 392.0 | 3.0 | | | G3/500 |
| BL (0°-30°) | 526.9 | 4.0 | B2/1000 | | |
| BM (30°-60°) | 2230.9 | 17.1 | B2/2500 | | |
| BH (60°-80°) | 3374.5 | 25.9 | B4/5000 | | G2/5000 |
| BVH (80°-90°) | 392.0 | 3.0 | | | G3/500 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G3

Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 |
| 2.5° | 1234.8 | 1234.4 | 1233.5 | 1232.6 | 1232.2 | 1231.8 | 1231.8 | 1231.8 | 1231.6 | 1231.4 | 1231.6 |
| 5° | 1234.8 | 1234.3 | 1233.7 | 1233.1 | 1232.4 | 1231.8 | 1231.8 | 1231.8 | 1231.6 | 1231.4 | 1231.8 |
| 7.5° | 1233.0 | 1233.5 | 1232.9 | 1232.2 | 1232.0 | 1231.8 | 1231.6 | 1231.4 | 1230.9 | 1230.5 | 1230.7 |
| 10° | 1233.5 | 1235.2 | 1233.9 | 1232.6 | 1232.2 | 1231.8 | 1231.0 | 1230.2 | 1229.9 | 1229.7 | 1229.3 |
| 12.5° | 1234.4 | 1236.0 | 1234.6 | 1233.0 | 1232.4 | 1231.8 | 1231.0 | 1230.1 | 1229.5 | 1228.8 | 1228.2 |
| 15° | 1236.8 | 1238.2 | 1236.9 | 1235.6 | 1234.3 | 1233.0 | 1232.2 | 1231.4 | 1230.1 | 1228.8 | 1228.2 |
| 17.5° | 1238.6 | 1240.6 | 1239.2 | 1237.8 | 1236.2 | 1234.8 | 1233.9 | 1233.1 | 1232.2 | 1231.4 | 1230.4 |
| 20° | 1241.5 | 1243.6 | 1242.4 | 1241.0 | 1240.2 | 1239.4 | 1238.8 | 1238.1 | 1237.5 | 1236.9 | 1235.4 |
| 22.5° | 1247.0 | 1248.6 | 1248.2 | 1247.8 | 1248.1 | 1248.2 | 1248.5 | 1248.7 | 1248.3 | 1247.8 | 1246.4 |
| 25° | 1258.4 | 1258.4 | 1259.2 | 1260.0 | 1261.3 | 1262.6 | 1263.7 | 1264.8 | 1265.4 | 1266.0 | 1264.1 |
| 27.5° | 1278.2 | 1279.9 | 1280.5 | 1281.2 | 1283.3 | 1285.4 | 1287.7 | 1290.1 | 1291.3 | 1292.6 | 1290.7 |
| 30° | 1304.0 | 1304.0 | 1305.4 | 1306.9 | 1310.5 | 1314.1 | 1317.0 | 1320.0 | 1322.3 | 1324.6 | 1323.2 |
| 32.5° | 1336.9 | 1338.9 | 1341.1 | 1343.2 | 1347.6 | 1352.1 | 1357.1 | 1362.2 | 1365.2 | 1368.1 | 1365.8 |
| 35° | 1387.1 | 1389.6 | 1391.7 | 1393.8 | 1398.5 | 1403.2 | 1408.9 | 1414.6 | 1417.1 | 1419.6 | 1418.1 |
| 37.5° | 1458.0 | 1458.0 | 1460.9 | 1463.9 | 1466.8 | 1469.8 | 1477.4 | 1485.0 | 1488.2 | 1491.4 | 1488.8 |
| 40° | 1553.8 | 1554.2 | 1554.9 | 1555.4 | 1558.2 | 1560.9 | 1570.2 | 1579.6 | 1585.0 | 1590.5 | 1585.2 |
| 42.5° | 1664.0 | 1668.6 | 1668.3 | 1668.1 | 1670.0 | 1672.0 | 1680.8 | 1689.6 | 1697.5 | 1705.3 | 1702.2 |
| 45° | 1793.9 | 1793.0 | 1791.4 | 1789.6 | 1795.4 | 1801.1 | 1813.8 | 1826.4 | 1833.4 | 1840.3 | 1833.8 |
| 47.5° | 1925.2 | 1923.8 | 1921.5 | 1919.2 | 1924.9 | 1930.6 | 1949.6 | 1968.6 | 1978.6 | 1988.4 | 1977.9 |
| 50° | 2056.0 | 2061.0 | 2058.0 | 2055.1 | 2063.6 | 2072.0 | 2096.0 | 2120.1 | 2134.6 | 2149.2 | 2137.0 |
| 52.5° | 2200.7 | 2204.5 | 2201.1 | 2197.8 | 2209.4 | 2221.0 | 2249.4 | 2277.9 | 2297.3 | 2316.8 | 2300.3 |
| 55° | 2350.5 | 2345.8 | 2347.8 | 2349.7 | 2360.6 | 2371.6 | 2406.6 | 2441.6 | 2464.9 | 2488.1 | 2469.5 |
| 57.5° | 2490.6 | 2492.3 | 2490.4 | 2488.6 | 2505.8 | 2523.1 | 2567.2 | 2611.3 | 2640.4 | 2669.5 | 2646.3 |
| 60° | 2634.1 | 2634.5 | 2630.3 | 2626.0 | 2644.8 | 2663.6 | 2727.0 | 2790.2 | 2828.0 | 2865.8 | 2833.9 |
| 62.5° | 2794.5 | 2794.0 | 2786.7 | 2779.3 | 2801.4 | 2823.6 | 2902.1 | 2980.6 | 3032.4 | 3084.4 | 3045.5 |
| 65° | 2991.1 | 2986.0 | 2981.8 | 2977.6 | 3003.2 | 3028.7 | 3126.2 | 3223.6 | 3293.7 | 3363.8 | 3313.8 |
| 67.5° | 3281.0 | 3277.2 | 3268.4 | 3259.4 | 3288.0 | 3316.5 | 3441.4 | 3566.2 | 3656.8 | 3747.3 | 3681.3 |
| 70° | 3600.0 | 3592.9 | 3599.0 | 3605.2 | 3671.0 | 3736.8 | 3904.3 | 4071.8 | 4179.0 | 4286.2 | 4175.2 |
| 72° | 3442.6 | 3445.6 | 3466.0 | 3486.5 | 3601.9 | 3717.4 | 3955.4 | 4193.4 | 4348.4 | 4503.5 | 4332.0 |
| 72.5° | 3387.8 | 3390.3 | 3413.5 | 3436.8 | 3546.9 | 3657.0 | 3902.4 | 4147.8 | 4308.4 | 4469.0 | 4292.5 |
| 75° | 3154.9 | 3161.6 | 3188.4 | 3215.2 | 3326.8 | 3438.4 | 3686.0 | 3933.4 | 4087.2 | 4241.0 | 4064.4 |
| 77.5° | 2774.6 | 2795.7 | 2822.9 | 2850.1 | 2983.1 | 3116.0 | 3395.8 | 3675.6 | 3845.4 | 4015.2 | 3814.8 |
| 80° | 2117.6 | 2110.0 | 2156.8 | 2203.6 | 2330.7 | 2457.7 | 2674.2 | 2890.7 | 3086.3 | 3281.8 | 3056.5 |
| 82.5° | 822.9 | 841.0 | 938.1 | 1035.2 | 1168.3 | 1301.4 | 1495.4 | 1689.2 | 1865.4 | 2041.6 | 1854.0 |
| 85° | 84.8 | 96.6 | 131.4 | 166.2 | 238.8 | 311.4 | 429.6 | 547.8 | 663.6 | 779.4 | 653.7 |
| 87.5° | 34.2 | 37.6 | 48.3 | 59.1 | 61.8 | 64.6 | 78.1 | 91.6 | 91.0 | 90.3 | 89.0 |
| 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° | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 | 1232.2 |
| 2.5° | 1231.8 | 1232.2 | 1232.6 | 1232.6 | 1232.6 | 1233.3 | 1233.9 | 1233.1 |
| 5° | 1232.2 | 1232.4 | 1232.6 | 1232.6 | 1232.6 | 1233.3 | 1233.9 | 1233.1 |
| 7.5° | 1230.9 | 1231.0 | 1231.0 | 1231.6 | 1232.2 | 1232.4 | 1232.6 | 1232.2 |
| 10° | 1228.8 | 1229.1 | 1229.3 | 1229.9 | 1230.6 | 1231.2 | 1231.8 | 1232.2 |
| 12.5° | 1227.6 | 1227.8 | 1228.0 | 1228.7 | 1229.3 | 1229.9 | 1230.5 | 1231.4 |
| 15° | 1227.6 | 1227.8 | 1228.0 | 1228.4 | 1228.8 | 1229.7 | 1230.6 | 1231.4 |
| 17.5° | 1229.3 | 1228.9 | 1228.4 | 1228.8 | 1229.2 | 1230.3 | 1231.4 | 1232.2 |
| 20° | 1233.9 | 1233.3 | 1232.6 | 1232.6 | 1232.6 | 1233.7 | 1234.8 | 1234.8 |
| 22.5° | 1244.9 | 1242.8 | 1240.6 | 1240.2 | 1239.8 | 1240.0 | 1240.2 | 1240.7 |
| 25° | 1262.2 | 1258.8 | 1255.4 | 1254.4 | 1253.3 | 1252.9 | 1252.5 | 1253.3 |
| 27.5° | 1288.8 | 1285.0 | 1281.2 | 1278.9 | 1276.6 | 1275.3 | 1274.0 | 1274.4 |
| 30° | 1321.7 | 1317.2 | 1312.8 | 1309.0 | 1305.2 | 1303.5 | 1301.8 | 1302.3 |
| 32.5° | 1363.4 | 1358.2 | 1352.9 | 1347.9 | 1342.8 | 1340.5 | 1338.2 | 1338.6 |
| 35° | 1416.6 | 1410.5 | 1404.4 | 1400.2 | 1395.9 | 1392.4 | 1388.8 | 1391.7 |
| 37.5° | 1486.2 | 1480.6 | 1474.8 | 1472.1 | 1469.4 | 1466.2 | 1463.0 | 1463.5 |
| 40° | 1580.0 | 1574.0 | 1568.2 | 1565.8 | 1563.5 | 1559.5 | 1555.5 | 1556.3 |
| 42.5° | 1699.0 | 1690.1 | 1681.2 | 1677.0 | 1672.8 | 1670.9 | 1669.0 | 1670.3 |
| 45° | 1827.2 | 1818.4 | 1809.5 | 1805.9 | 1802.4 | 1797.3 | 1792.2 | 1796.9 |
| 47.5° | 1967.4 | 1956.2 | 1945.0 | 1938.6 | 1932.3 | 1934.0 | 1935.7 | 1931.9 |
| 50° | 2124.8 | 2106.0 | 2087.2 | 2079.8 | 2072.4 | 2072.4 | 2072.4 | 2072.0 |
| 52.5° | 2283.9 | 2257.9 | 2231.9 | 2225.6 | 2219.2 | 2217.8 | 2216.3 | 2214.6 |
| 55° | 2451.0 | 2419.1 | 2387.2 | 2375.4 | 2363.6 | 2365.3 | 2367.0 | 2371.6 |
| 57.5° | 2623.2 | 2581.2 | 2539.2 | 2525.6 | 2512.1 | 2513.2 | 2514.2 | 2521.8 |
| 60° | 2802.0 | 2747.8 | 2693.6 | 2678.6 | 2663.6 | 2667.7 | 2671.7 | 2676.3 |
| 62.5° | 3006.7 | 2941.1 | 2875.4 | 2855.4 | 2835.4 | 2840.4 | 2845.5 | 2857.8 |
| 65° | 3263.8 | 3181.9 | 3100.0 | 3079.1 | 3058.2 | 3060.5 | 3062.8 | 3083.9 |
| 67.5° | 3615.2 | 3506.2 | 3397.1 | 3377.9 | 3358.6 | 3362.0 | 3365.4 | 3399.6 |
| 70° | 4064.2 | 3902.6 | 3741.0 | 3661.4 | 3581.9 | 3569.4 | 3557.0 | 3575.1 |
| 72° | 4160.5 | 3932.2 | 3703.8 | 3586.6 | 3469.2 | 3450.9 | 3432.5 | 3434.2 |
| 72.5° | 4116.1 | 3885.3 | 3654.5 | 3540.6 | 3426.6 | 3411.6 | 3396.6 | 3393.7 |
| 75° | 3887.8 | 3662.1 | 3436.3 | 3318.6 | 3200.8 | 3172.4 | 3143.9 | 3143.9 |
| 77.5° | 3614.4 | 3329.8 | 3045.1 | 2918.1 | 2791.0 | 2761.3 | 2731.6 | 2708.4 |
| 80° | 2831.1 | 2576.0 | 2321.0 | 2192.0 | 2063.1 | 2015.4 | 1967.8 | 1939.5 |
| 82.5° | 1666.5 | 1431.8 | 1197.2 | 1033.5 | 869.8 | 820.6 | 771.4 | 703.0 |
| 85° | 528.0 | 406.2 | 284.5 | 222.0 | 159.5 | 128.9 | 98.3 | 86.1 |
| 87.5° | 87.8 | 71.3 | 54.8 | 53.0 | 51.0 | 40.1 | 29.1 | 24.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)