

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: P144250

Luminaire Tested: **LDRL-5XQ-E04-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P144250
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-E04-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE EXTRA WIDE
Light Source: (84) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12368.4 lumens
Efficiency: N/A
Efficacy: 127.2 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type V - Short - Non-Cutoff
BUG Rating: B4 - U0 - G3

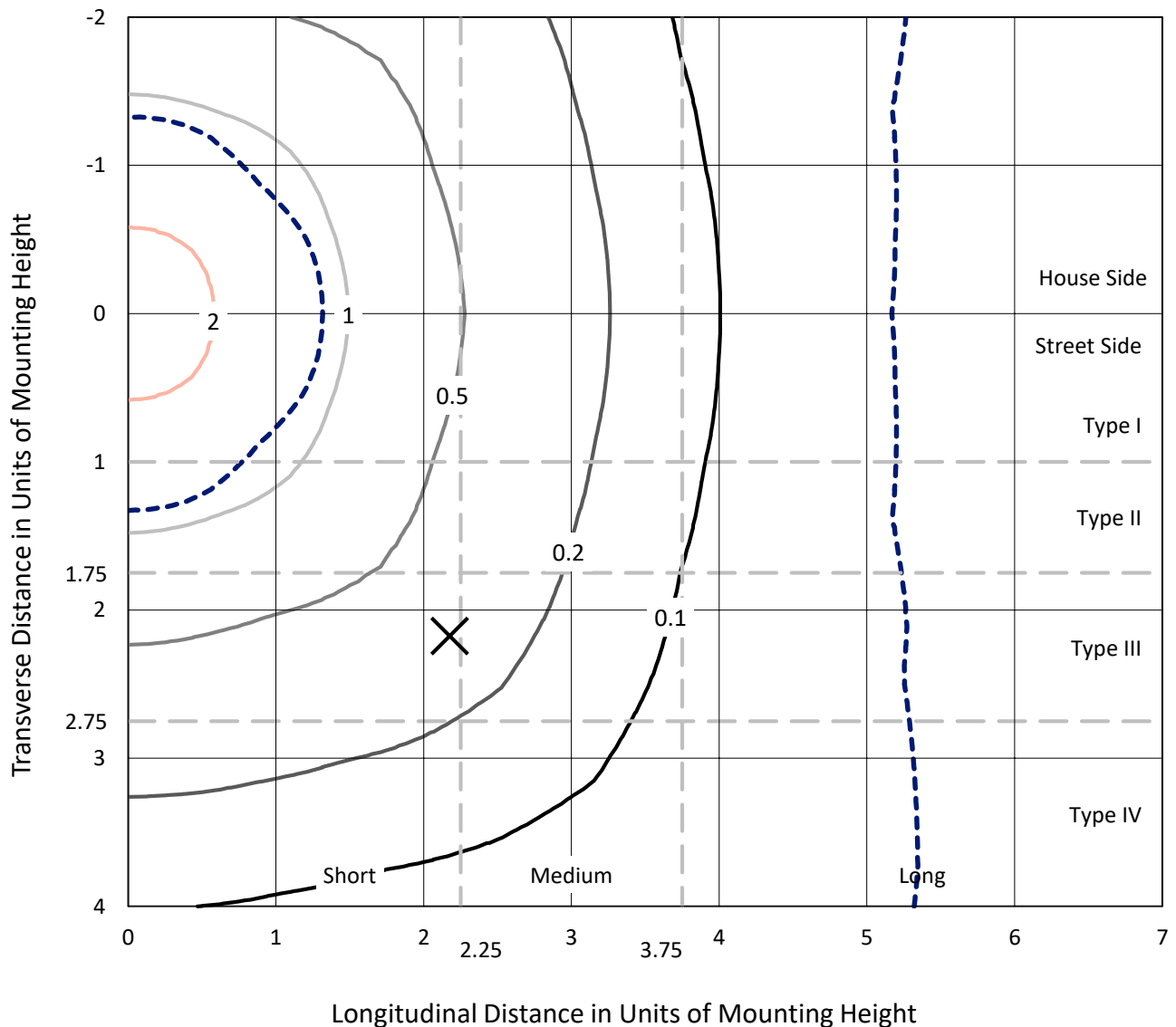
Input Watts (W): 97.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

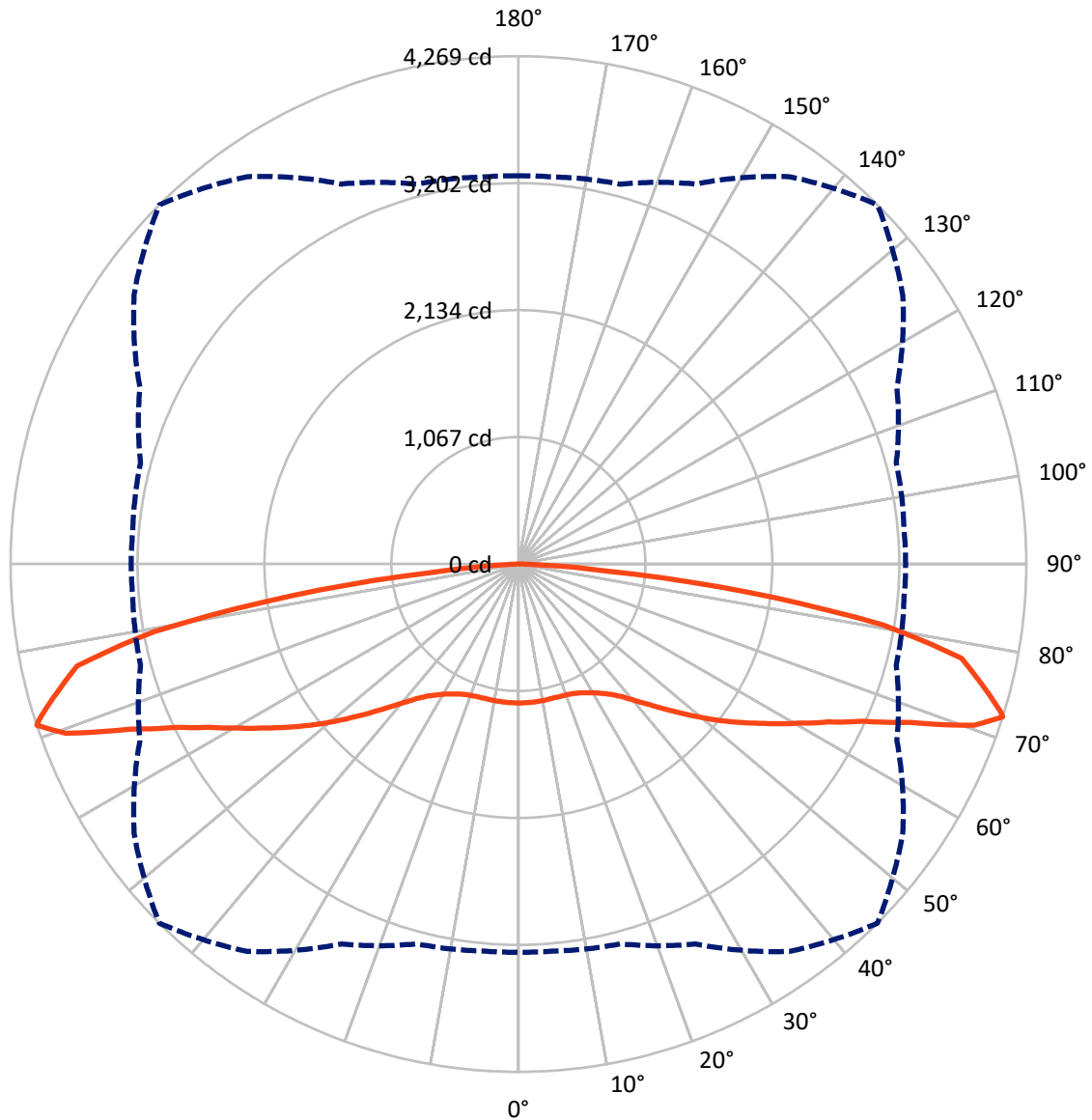
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.9 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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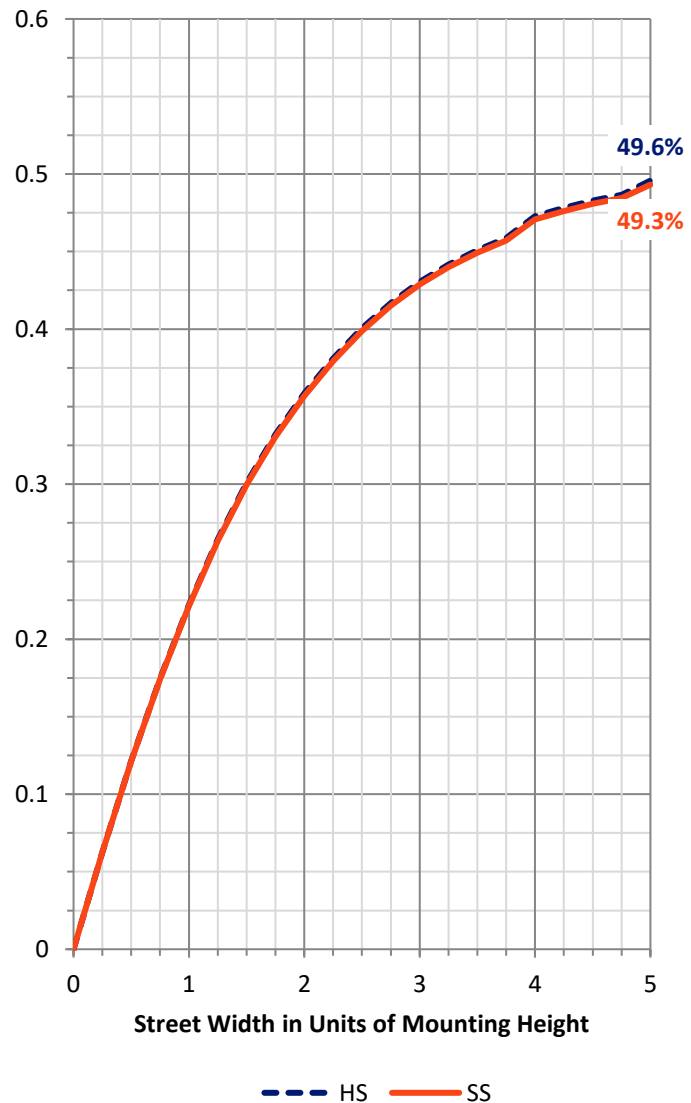
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 6184.2 | 0.0 | 6184.2 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 6184.2 | 0.0 | 6184.2 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 12368.4 | 0.0 | 12368.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 111.5 | 0.9 |
| 10°-20° | 331.2 | 2.7 |
| 20°-30° | 556.3 | 4.5 |
| 30°-40° | 846.6 | 6.8 |
| 40°-50° | 1338.4 | 10.8 |
| 50°-60° | 2044.2 | 16.5 |
| 60°-70° | 2994.8 | 24.2 |
| 70°-80° | 3402.3 | 27.5 |
| 80°-90° | 743.2 | 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° | 12368.4 | 100.0 |
| 0°-180° | 12368.4 | 100.0 |



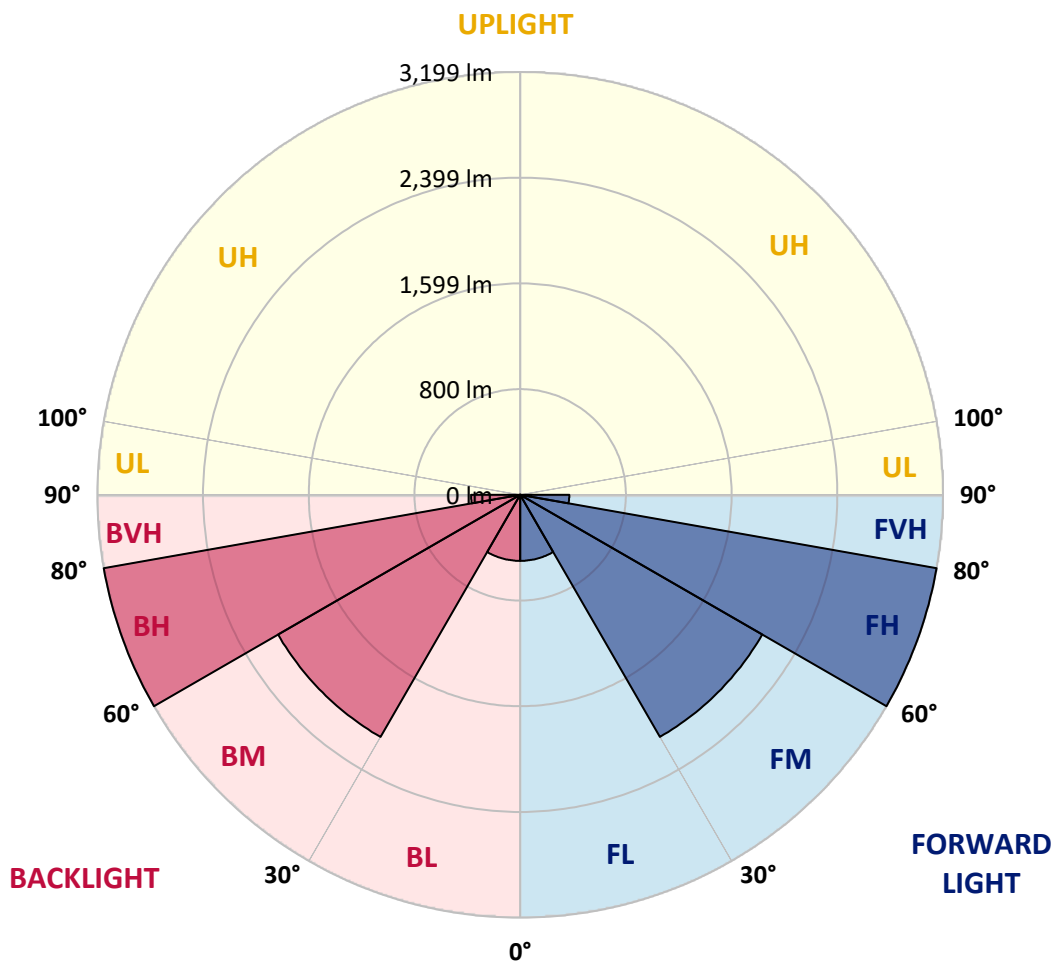
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 499.4 | 4.0 | | | |
| FM | (30°-60°) | 2114.6 | 17.1 | | | |
| FH | (60°-80°) | 3198.6 | 25.9 | | | G2/5000 |
| FVH | (80°-90°) | 371.6 | 3.0 | | | G3/500 |
| BL | (0°-30°) | 499.4 | 4.0 | B1/500 | | |
| BM | (30°-60°) | 2114.6 | 17.1 | B2/2500 | | |
| BH | (60°-80°) | 3198.6 | 25.9 | B4/5000 | | G2/5000 |
| BVH | (80°-90°) | 371.6 | 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° | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 |
| 2.5° | 1170.4 | 1170.0 | 1169.2 | 1168.4 | 1168.0 | 1167.6 | 1167.6 | 1167.6 | 1167.4 | 1167.2 | 1167.4 |
| 5° | 1170.4 | 1170.0 | 1169.4 | 1168.8 | 1168.2 | 1167.6 | 1167.6 | 1167.6 | 1167.4 | 1167.2 | 1167.6 |
| 7.5° | 1168.8 | 1169.2 | 1168.6 | 1168.0 | 1167.8 | 1167.6 | 1167.4 | 1167.2 | 1166.8 | 1166.4 | 1166.6 |
| 10° | 1169.2 | 1170.8 | 1169.6 | 1168.4 | 1168.0 | 1167.6 | 1166.8 | 1166.0 | 1165.8 | 1165.6 | 1165.2 |
| 12.5° | 1170.0 | 1171.6 | 1170.2 | 1168.8 | 1168.2 | 1167.6 | 1166.8 | 1166.0 | 1165.4 | 1164.8 | 1164.2 |
| 15° | 1172.4 | 1173.6 | 1172.4 | 1171.2 | 1170.0 | 1168.8 | 1168.0 | 1167.2 | 1166.0 | 1164.8 | 1164.2 |
| 17.5° | 1174.0 | 1176.0 | 1174.6 | 1173.2 | 1171.8 | 1170.4 | 1169.6 | 1168.8 | 1168.0 | 1167.2 | 1166.2 |
| 20° | 1176.8 | 1178.8 | 1177.6 | 1176.4 | 1175.6 | 1174.8 | 1174.2 | 1173.6 | 1173.0 | 1172.4 | 1171.0 |
| 22.5° | 1182.0 | 1183.6 | 1183.2 | 1182.8 | 1183.0 | 1183.2 | 1183.4 | 1183.6 | 1183.2 | 1182.8 | 1181.4 |
| 25° | 1192.8 | 1192.8 | 1193.6 | 1194.4 | 1195.6 | 1196.8 | 1197.8 | 1198.8 | 1199.4 | 1200.0 | 1198.2 |
| 27.5° | 1211.6 | 1213.2 | 1213.8 | 1214.4 | 1216.4 | 1218.4 | 1220.6 | 1222.8 | 1224.0 | 1225.2 | 1223.4 |
| 30° | 1236.0 | 1236.0 | 1237.4 | 1238.8 | 1242.2 | 1245.6 | 1248.4 | 1251.2 | 1253.4 | 1255.6 | 1254.2 |
| 32.5° | 1267.2 | 1269.2 | 1271.2 | 1273.2 | 1277.4 | 1281.6 | 1286.4 | 1291.2 | 1294.0 | 1296.8 | 1294.6 |
| 35° | 1314.8 | 1317.2 | 1319.2 | 1321.2 | 1325.6 | 1330.0 | 1335.4 | 1340.8 | 1343.2 | 1345.6 | 1344.2 |
| 37.5° | 1382.0 | 1382.0 | 1384.8 | 1387.6 | 1390.4 | 1393.2 | 1400.4 | 1407.6 | 1410.6 | 1413.6 | 1411.2 |
| 40° | 1472.8 | 1473.2 | 1473.8 | 1474.4 | 1477.0 | 1479.6 | 1488.4 | 1497.2 | 1502.4 | 1507.6 | 1502.6 |
| 42.5° | 1577.2 | 1581.6 | 1581.4 | 1581.2 | 1583.0 | 1584.8 | 1593.2 | 1601.6 | 1609.0 | 1616.4 | 1613.4 |
| 45° | 1700.4 | 1699.6 | 1698.0 | 1696.4 | 1701.8 | 1707.2 | 1719.2 | 1731.2 | 1737.8 | 1744.4 | 1738.2 |
| 47.5° | 1824.8 | 1823.6 | 1821.4 | 1819.2 | 1824.6 | 1830.0 | 1848.0 | 1866.0 | 1875.4 | 1884.8 | 1874.8 |
| 50° | 1948.8 | 1953.6 | 1950.8 | 1948.0 | 1956.0 | 1964.0 | 1986.8 | 2009.6 | 2023.4 | 2037.2 | 2025.6 |
| 52.5° | 2086.0 | 2089.6 | 2086.4 | 2083.2 | 2094.2 | 2105.2 | 2132.2 | 2159.2 | 2177.6 | 2196.0 | 2180.4 |
| 55° | 2228.0 | 2223.6 | 2225.4 | 2227.2 | 2237.6 | 2248.0 | 2281.2 | 2314.4 | 2336.4 | 2358.4 | 2340.8 |
| 57.5° | 2360.8 | 2362.4 | 2360.6 | 2358.8 | 2375.2 | 2391.6 | 2433.4 | 2475.2 | 2502.8 | 2530.4 | 2508.4 |
| 60° | 2496.8 | 2497.2 | 2493.2 | 2489.2 | 2507.0 | 2524.8 | 2584.8 | 2644.8 | 2680.6 | 2716.4 | 2686.2 |
| 62.5° | 2648.8 | 2648.4 | 2641.4 | 2634.4 | 2655.4 | 2676.4 | 2750.8 | 2825.2 | 2874.4 | 2923.6 | 2886.8 |
| 65° | 2835.2 | 2830.4 | 2826.4 | 2822.4 | 2846.6 | 2870.8 | 2963.2 | 3055.6 | 3122.0 | 3188.4 | 3141.0 |
| 67.5° | 3110.0 | 3106.4 | 3098.0 | 3089.6 | 3116.6 | 3143.6 | 3262.0 | 3380.4 | 3466.2 | 3552.0 | 3489.4 |
| 70° | 3412.4 | 3405.6 | 3411.4 | 3417.2 | 3479.6 | 3542.0 | 3700.8 | 3859.6 | 3961.2 | 4062.8 | 3957.6 |
| 72° | 3263.2 | 3266.0 | 3285.4 | 3304.8 | 3414.2 | 3523.6 | 3749.2 | 3974.8 | 4121.8 | 4268.8 | 4106.2 |
| 72.5° | 3211.2 | 3213.6 | 3235.6 | 3257.6 | 3362.0 | 3466.4 | 3699.0 | 3931.6 | 4083.8 | 4236.0 | 4068.8 |
| 75° | 2990.4 | 2996.8 | 3022.2 | 3047.6 | 3153.4 | 3259.2 | 3493.8 | 3728.4 | 3874.2 | 4020.0 | 3852.6 |
| 77.5° | 2630.0 | 2650.0 | 2675.8 | 2701.6 | 2827.6 | 2953.6 | 3218.8 | 3484.0 | 3645.0 | 3806.0 | 3616.0 |
| 80° | 2007.2 | 2000.0 | 2044.4 | 2088.8 | 2209.2 | 2329.6 | 2534.8 | 2740.0 | 2925.4 | 3110.8 | 2897.2 |
| 82.5° | 780.0 | 797.2 | 889.2 | 981.2 | 1107.4 | 1233.6 | 1417.4 | 1601.2 | 1768.2 | 1935.2 | 1757.4 |
| 85° | 80.4 | 91.6 | 124.6 | 157.6 | 226.4 | 295.2 | 407.2 | 519.2 | 629.0 | 738.8 | 619.6 |
| 87.5° | 32.4 | 35.6 | 45.8 | 56.0 | 58.6 | 61.2 | 74.0 | 86.8 | 86.2 | 85.6 | 84.4 |
| 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° | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 | 1168.0 |
| 2.5° | 1167.6 | 1168.0 | 1168.4 | 1168.4 | 1168.4 | 1169.0 | 1169.6 | 1168.8 |
| 5° | 1168.0 | 1168.2 | 1168.4 | 1168.4 | 1168.4 | 1169.0 | 1169.6 | 1168.8 |
| 7.5° | 1166.8 | 1166.8 | 1166.8 | 1167.4 | 1168.0 | 1168.2 | 1168.4 | 1168.0 |
| 10° | 1164.8 | 1165.0 | 1165.2 | 1165.8 | 1166.4 | 1167.0 | 1167.6 | 1168.0 |
| 12.5° | 1163.6 | 1163.8 | 1164.0 | 1164.6 | 1165.2 | 1165.8 | 1166.4 | 1167.2 |
| 15° | 1163.6 | 1163.8 | 1164.0 | 1164.4 | 1164.8 | 1165.6 | 1166.4 | 1167.2 |
| 17.5° | 1165.2 | 1164.8 | 1164.4 | 1164.8 | 1165.2 | 1166.2 | 1167.2 | 1168.0 |
| 20° | 1169.6 | 1169.0 | 1168.4 | 1168.4 | 1168.4 | 1169.4 | 1170.4 | 1170.4 |
| 22.5° | 1180.0 | 1178.0 | 1176.0 | 1175.6 | 1175.2 | 1175.4 | 1175.6 | 1176.0 |
| 25° | 1196.4 | 1193.2 | 1190.0 | 1189.0 | 1188.0 | 1187.6 | 1187.2 | 1188.0 |
| 27.5° | 1221.6 | 1218.0 | 1214.4 | 1212.2 | 1210.0 | 1208.8 | 1207.6 | 1208.0 |
| 30° | 1252.8 | 1248.6 | 1244.4 | 1240.8 | 1237.2 | 1235.6 | 1234.0 | 1234.4 |
| 32.5° | 1292.4 | 1287.4 | 1282.4 | 1277.6 | 1272.8 | 1270.6 | 1268.4 | 1268.8 |
| 35° | 1342.8 | 1337.0 | 1331.2 | 1327.2 | 1323.2 | 1319.8 | 1316.4 | 1319.2 |
| 37.5° | 1408.8 | 1403.4 | 1398.0 | 1395.4 | 1392.8 | 1389.8 | 1386.8 | 1387.2 |
| 40° | 1497.6 | 1492.0 | 1486.4 | 1484.2 | 1482.0 | 1478.2 | 1474.4 | 1475.2 |
| 42.5° | 1610.4 | 1602.0 | 1593.6 | 1589.6 | 1585.6 | 1583.8 | 1582.0 | 1583.2 |
| 45° | 1732.0 | 1723.6 | 1715.2 | 1711.8 | 1708.4 | 1703.6 | 1698.8 | 1703.2 |
| 47.5° | 1864.8 | 1854.2 | 1843.6 | 1837.6 | 1831.6 | 1833.2 | 1834.8 | 1831.2 |
| 50° | 2014.0 | 1996.2 | 1978.4 | 1971.4 | 1964.4 | 1964.4 | 1964.4 | 1964.0 |
| 52.5° | 2164.8 | 2140.2 | 2115.6 | 2109.6 | 2103.6 | 2102.2 | 2100.8 | 2099.2 |
| 55° | 2323.2 | 2293.0 | 2262.8 | 2251.6 | 2240.4 | 2242.0 | 2243.6 | 2248.0 |
| 57.5° | 2486.4 | 2446.6 | 2406.8 | 2394.0 | 2381.2 | 2382.2 | 2383.2 | 2390.4 |
| 60° | 2656.0 | 2604.6 | 2553.2 | 2539.0 | 2524.8 | 2528.6 | 2532.4 | 2536.8 |
| 62.5° | 2850.0 | 2787.8 | 2725.6 | 2706.6 | 2687.6 | 2692.4 | 2697.2 | 2708.8 |
| 65° | 3093.6 | 3016.0 | 2938.4 | 2918.6 | 2898.8 | 2901.0 | 2903.2 | 2923.2 |
| 67.5° | 3426.8 | 3323.4 | 3220.0 | 3201.8 | 3183.6 | 3186.8 | 3190.0 | 3222.4 |
| 70° | 3852.4 | 3699.2 | 3546.0 | 3470.6 | 3395.2 | 3383.4 | 3371.6 | 3388.8 |
| 72° | 3943.6 | 3727.2 | 3510.8 | 3399.6 | 3288.4 | 3271.0 | 3253.6 | 3255.2 |
| 72.5° | 3901.6 | 3682.8 | 3464.0 | 3356.0 | 3248.0 | 3233.8 | 3219.6 | 3216.8 |
| 75° | 3685.2 | 3471.2 | 3257.2 | 3145.6 | 3034.0 | 3007.0 | 2980.0 | 2980.0 |
| 77.5° | 3426.0 | 3156.2 | 2886.4 | 2766.0 | 2645.6 | 2617.4 | 2589.2 | 2567.2 |
| 80° | 2683.6 | 2441.8 | 2200.0 | 2077.8 | 1955.6 | 1910.4 | 1865.2 | 1838.4 |
| 82.5° | 1579.6 | 1357.2 | 1134.8 | 979.6 | 824.4 | 777.8 | 731.2 | 666.4 |
| 85° | 500.4 | 385.0 | 269.6 | 210.4 | 151.2 | 122.2 | 93.2 | 81.6 |
| 87.5° | 83.2 | 67.6 | 52.0 | 50.2 | 48.4 | 38.0 | 27.6 | 23.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)