

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: CORELITE

Report Number: P934410

Luminaire Tested: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

Issue Date: 12/17/2024

Test Information

Test Method: LM-79-2019
Report Number: P934410
REPORT IS A COMBINATION OF REPORTS P933698 AND P933786
Test Lab: INNOVATION CENTER
Issue Date: 12/17/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: CORELITE
Catalog Number: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4
Description: CORELITE SQ4 SUSPENDED INDIRECT LED LUMINAIRE WITH Asymmetric Frosted Continuous I
Lens
Light Source: -
Ballast/Driver: -

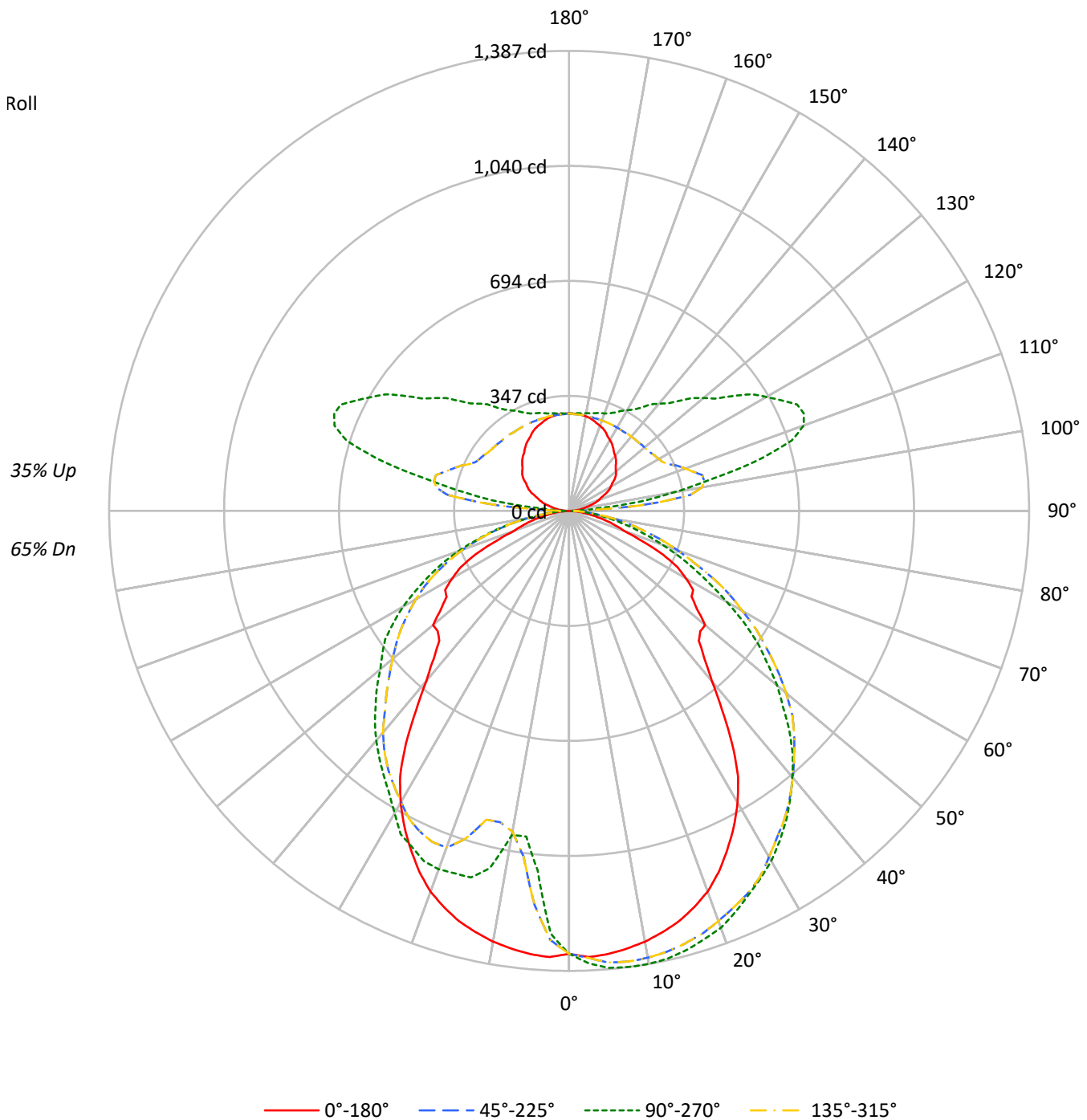
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5366.0 lumens
Efficiency: N/A
Efficacy: 118.7 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.26 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 0.29' x L: 4' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 45.2
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: 24 FT

TEST NUMBER: P934410
CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

Luminous Intensity Polar Plot





TEST NUMBER: P934410

CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | | | | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | | | 0 | |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 111 | 111 | 111 | 111 | 104 | 104 | 104 | 104 | 91 | 91 | 91 | 80 | 80 | 80 | 69 | 69 | 69 | 69 | 69 | 69 | 65 |
| 1 | 101 | 97 | 93 | 89 | 95 | 91 | 88 | 84 | 80 | 78 | 75 | 71 | 69 | 67 | 62 | 60 | 59 | 62 | 60 | 59 | 55 |
| 2 | 92 | 85 | 78 | 73 | 86 | 80 | 74 | 69 | 70 | 66 | 63 | 62 | 59 | 56 | 54 | 52 | 50 | 54 | 52 | 50 | 46 |
| 3 | 84 | 74 | 67 | 61 | 79 | 70 | 63 | 58 | 62 | 57 | 53 | 55 | 51 | 47 | 48 | 45 | 42 | 48 | 45 | 42 | 39 |
| 4 | 77 | 66 | 58 | 52 | 72 | 62 | 55 | 49 | 55 | 49 | 45 | 49 | 44 | 41 | 43 | 39 | 36 | 43 | 39 | 36 | 33 |
| 5 | 71 | 59 | 50 | 44 | 66 | 56 | 48 | 42 | 49 | 43 | 39 | 44 | 39 | 35 | 39 | 35 | 32 | 39 | 35 | 32 | 29 |
| 6 | 65 | 53 | 44 | 38 | 61 | 50 | 42 | 37 | 45 | 38 | 34 | 40 | 35 | 31 | 35 | 31 | 28 | 35 | 31 | 28 | 25 |
| 7 | 60 | 48 | 39 | 34 | 56 | 45 | 38 | 32 | 40 | 34 | 30 | 36 | 31 | 27 | 32 | 28 | 25 | 32 | 28 | 25 | 22 |
| 8 | 56 | 43 | 35 | 30 | 52 | 41 | 34 | 29 | 37 | 31 | 27 | 33 | 28 | 24 | 29 | 25 | 22 | 29 | 25 | 22 | 20 |
| 9 | 52 | 40 | 32 | 27 | 49 | 38 | 31 | 26 | 34 | 28 | 24 | 30 | 25 | 22 | 27 | 23 | 20 | 27 | 23 | 20 | 18 |
| 10 | 49 | 36 | 29 | 24 | 46 | 35 | 28 | 23 | 31 | 25 | 21 | 28 | 23 | 20 | 25 | 21 | 18 | 25 | 21 | 18 | 16 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° | 270° |
|-----|-------|-------|-------|-------|
| 0° | 12389 | 12389 | 12389 | 12389 |
| 5° | 12468 | 12506 | 12468 | 9833 |
| 10° | 12371 | 12319 | 12371 | 8808 |
| 15° | 12222 | 12051 | 12222 | 10063 |
| 20° | 11952 | 11736 | 11952 | 10084 |
| 25° | 11416 | 11275 | 11416 | 9871 |
| 30° | 10727 | 10892 | 10727 | 9402 |
| 35° | 9548 | 10408 | 9548 | 8887 |
| 40° | 7943 | 9837 | 7943 | 8497 |
| 45° | 7082 | 9170 | 7082 | 8048 |
| 50° | 7508 | 8374 | 7508 | 7599 |
| 55° | 7043 | 7517 | 7043 | 7338 |
| 60° | 7234 | 6383 | 7234 | 6722 |
| 65° | 6529 | 5277 | 6529 | 5900 |
| 70° | 4491 | 4206 | 4491 | 4946 |
| 75° | 3892 | 3109 | 3892 | 3723 |
| 80° | 3075 | 2056 | 3075 | 2238 |
| 85° | 1673 | 1088 | 1673 | 924 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 20°
 Vertical Angle: 45°
 Luminance: 10877 cd/sqm



TEST NUMBER: P934410

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 120.5 | 2.2 |
| 10°-20° | 342.2 | 6.4 |
| 20°-30° | 528.9 | 9.9 |
| 30°-40° | 631.4 | 11.8 |
| 40°-50° | 635.2 | 11.8 |
| 50°-60° | 552.7 | 10.3 |
| 60°-70° | 391.8 | 7.3 |
| 70°-80° | 207.3 | 3.9 |
| 80°-90° | 52.7 | 1.0 |
| 90°-100° | 143.1 | 2.7 |
| 100°-110° | 376.3 | 7.0 |
| 110°-120° | 390.1 | 7.3 |
| 120°-130° | 312.9 | 5.8 |
| 130°-140° | 245.5 | 4.6 |
| 140°-150° | 188.5 | 3.5 |
| 150°-160° | 135.7 | 2.5 |
| 160°-170° | 83.0 | 1.5 |
| 170°-180° | 28.1 | 0.5 |
| 0°-30° | 991.6 | 18.5 |
| 0°-40° | 1623.1 | 30.2 |
| 0°-60° | 2810.9 | 52.4 |
| 0°-90° | 3462.8 | 64.5 |
| 90°-120° | 909.5 | 16.9 |
| 90°-150° | 1656.4 | 30.9 |
| 90°-180° | 1903.0 | 35.5 |
| 0°-180° | 5366.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 90° | 180° | 270° | 360° | Flux |
|------|------|------|------|------|------|------|
| 0° | 1335 | 1335 | 1335 | 1335 | 1335 | |
| 5° | 1342 | 1383 | 1342 | 1088 | 1342 | 127 |
| 15° | 1281 | 1370 | 1281 | 1144 | 1281 | 360 |
| 25° | 1128 | 1278 | 1128 | 1119 | 1128 | 518 |
| 35° | 858 | 1141 | 858 | 974 | 858 | 531 |
| 45° | 553 | 940 | 553 | 825 | 553 | 443 |
| 55° | 451 | 694 | 451 | 677 | 451 | 414 |
| 65° | 313 | 418 | 313 | 467 | 313 | 299 |
| 75° | 119 | 198 | 119 | 238 | 119 | 125 |
| 85° | 20 | 50 | 20 | 43 | 20 | 27 |
| 90° | 2 | 8 | 2 | 8 | 2 | 2 |
| 95° | 19 | 86 | 19 | 86 | 19 | 21 |
| 105° | 68 | 589 | 68 | 589 | 68 | 72 |
| 115° | 120 | 759 | 120 | 759 | 120 | 119 |
| 125° | 168 | 604 | 168 | 604 | 168 | 149 |
| 135° | 200 | 469 | 200 | 469 | 200 | 154 |
| 145° | 232 | 380 | 232 | 380 | 232 | 145 |
| 155° | 262 | 328 | 262 | 328 | 262 | 120 |
| 165° | 282 | 305 | 282 | 305 | 282 | 80 |
| 175° | 294 | 296 | 294 | 296 | 294 | 28 |
| 180° | 294 | 294 | 294 | 294 | 294 | |



TEST NUMBER: P934410

CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CANDELA DISTRIBUTION (FULL):

| | 0° | 10° | 20° | 22.5° | 30° | 40° | 45° | 50° | 60° | 67.5° | 70° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 |
| 2.5° | 1346.4 | 1346.4 | 1354.1 | 1356.6 | 1356.6 | 1352.7 | 1349.0 | 1352.7 | 1364.1 | 1367.9 | 1366.7 |
| 5° | 1341.5 | 1351.5 | 1365.5 | 1367.9 | 1370.4 | 1369.2 | 1366.7 | 1369.2 | 1381.8 | 1384.4 | 1385.6 |
| 7.5° | 1331.3 | 1350.3 | 1367.9 | 1371.8 | 1375.5 | 1371.8 | 1370.4 | 1373.0 | 1385.6 | 1388.1 | 1388.1 |
| 10° | 1318.7 | 1345.2 | 1365.5 | 1367.9 | 1371.8 | 1367.9 | 1367.9 | 1373.0 | 1385.6 | 1388.1 | 1389.5 |
| 12.5° | 1301.0 | 1337.6 | 1356.6 | 1359.1 | 1364.1 | 1362.9 | 1361.6 | 1366.7 | 1379.3 | 1381.8 | 1381.8 |
| 15° | 1280.8 | 1323.8 | 1341.5 | 1343.9 | 1352.7 | 1350.3 | 1350.3 | 1355.3 | 1369.2 | 1373.0 | 1371.8 |
| 17.5° | 1253.0 | 1306.1 | 1326.3 | 1330.1 | 1336.4 | 1335.1 | 1336.4 | 1341.5 | 1354.1 | 1356.6 | 1357.8 |
| 20° | 1221.4 | 1282.1 | 1306.1 | 1309.8 | 1316.1 | 1316.1 | 1316.1 | 1322.4 | 1335.1 | 1340.1 | 1340.1 |
| 22.5° | 1178.5 | 1256.8 | 1282.1 | 1284.6 | 1292.1 | 1292.1 | 1294.7 | 1303.5 | 1314.9 | 1316.1 | 1316.1 |
| 25° | 1128.0 | 1229.0 | 1250.4 | 1258.1 | 1265.6 | 1269.4 | 1273.2 | 1278.3 | 1282.1 | 1280.8 | 1282.1 |
| 27.5° | 1074.9 | 1193.7 | 1221.4 | 1226.5 | 1236.6 | 1240.4 | 1245.4 | 1246.7 | 1248.0 | 1251.7 | 1249.2 |
| 30° | 1015.6 | 1144.3 | 1186.0 | 1191.1 | 1207.5 | 1210.0 | 1205.0 | 1207.5 | 1213.8 | 1216.4 | 1218.9 |
| 32.5° | 948.5 | 1071.1 | 1149.4 | 1160.8 | 1176.0 | 1168.3 | 1167.1 | 1170.9 | 1181.0 | 1181.0 | 1183.5 |
| 35° | 857.6 | 1014.3 | 1115.4 | 1125.4 | 1136.8 | 1128.0 | 1133.0 | 1134.3 | 1140.6 | 1144.3 | 1143.1 |
| 37.5° | 757.8 | 965.0 | 1080.0 | 1087.5 | 1096.3 | 1085.0 | 1092.6 | 1096.3 | 1101.4 | 1098.9 | 1098.9 |
| 40° | 669.5 | 887.9 | 1038.3 | 1043.3 | 1050.9 | 1042.0 | 1049.6 | 1052.2 | 1054.7 | 1052.2 | 1050.9 |
| 42.5° | 603.8 | 803.3 | 994.0 | 1000.4 | 995.3 | 1001.6 | 1004.2 | 1009.2 | 1005.4 | 1000.4 | 1000.4 |
| 45° | 553.2 | 780.6 | 946.1 | 953.6 | 946.1 | 956.2 | 959.9 | 959.9 | 948.5 | 946.1 | 944.8 |
| 47.5° | 536.8 | 735.2 | 898.1 | 898.1 | 894.2 | 906.9 | 913.3 | 904.4 | 893.0 | 889.3 | 889.3 |
| 50° | 535.6 | 684.6 | 832.4 | 827.3 | 845.0 | 860.2 | 853.9 | 845.0 | 836.2 | 822.3 | 822.3 |
| 52.5° | 486.3 | 622.7 | 747.8 | 766.7 | 794.5 | 803.3 | 793.2 | 784.4 | 769.2 | 762.9 | 757.8 |
| 55° | 450.9 | 558.3 | 670.7 | 708.6 | 737.6 | 749.0 | 730.1 | 721.2 | 698.5 | 694.7 | 692.1 |
| 57.5° | 443.4 | 464.8 | 600.0 | 648.0 | 683.3 | 682.1 | 670.7 | 654.3 | 635.4 | 631.5 | 630.3 |
| 60° | 406.7 | 335.9 | 524.2 | 581.1 | 617.7 | 613.8 | 603.8 | 588.6 | 570.9 | 568.4 | 565.9 |
| 62.5° | 368.8 | 243.8 | 438.3 | 502.8 | 554.5 | 553.2 | 544.4 | 521.7 | 509.1 | 502.8 | 497.7 |
| 65° | 313.3 | 204.6 | 311.9 | 418.1 | 492.6 | 495.1 | 476.2 | 459.7 | 445.9 | 438.3 | 437.0 |
| 67.5° | 238.7 | 166.7 | 210.9 | 348.7 | 433.3 | 430.7 | 406.7 | 399.1 | 381.4 | 377.6 | 370.1 |
| 70° | 176.9 | 111.2 | 146.6 | 283.0 | 375.1 | 368.8 | 349.9 | 341.0 | 324.7 | 315.8 | 310.7 |
| 72.5° | 146.6 | 89.7 | 107.4 | 219.8 | 315.8 | 308.2 | 291.8 | 281.6 | 267.8 | 260.2 | 255.2 |
| 75° | 118.7 | 94.7 | 82.1 | 162.9 | 256.4 | 251.3 | 236.2 | 226.1 | 214.7 | 204.6 | 205.9 |
| 77.5° | 87.2 | 88.4 | 65.7 | 120.0 | 203.3 | 195.8 | 186.9 | 174.3 | 169.2 | 159.2 | 159.2 |
| 80° | 65.7 | 69.5 | 49.2 | 82.1 | 146.6 | 146.6 | 138.9 | 130.1 | 121.2 | 116.2 | 116.2 |
| 82.5° | 44.2 | 44.2 | 36.6 | 51.8 | 99.8 | 96.0 | 90.9 | 88.4 | 83.4 | 80.9 | 80.9 |
| 85° | 20.2 | 25.2 | 22.8 | 31.5 | 54.3 | 56.9 | 56.9 | 54.3 | 53.1 | 50.5 | 51.8 |
| 87.5° | 6.3 | 11.4 | 13.9 | 17.7 | 27.8 | 29.1 | 30.3 | 30.3 | 30.3 | 31.5 | 31.5 |
| 90° | 2.0 | 3.5 | 5.2 | 5.5 | 8.7 | 12.9 | 15.0 | 13.3 | 9.9 | 7.5 | 7.5 |
| 92.5° | 7.8 | 21.2 | 34.7 | 38.0 | 53.4 | 74.0 | 84.3 | 73.9 | 53.1 | 37.5 | 35.9 |
| 95° | 18.9 | 43.4 | 68.0 | 74.1 | 131.5 | 208.1 | 246.5 | 219.9 | 166.8 | 127.1 | 122.6 |
| 97.5° | 32.7 | 54.3 | 75.9 | 81.4 | 177.1 | 305.0 | 368.8 | 352.1 | 318.5 | 293.4 | 284.8 |
| 100° | 43.3 | 62.9 | 82.6 | 87.5 | 193.8 | 335.6 | 406.5 | 407.7 | 410.2 | 412.0 | 401.8 |
| 102.5° | 52.4 | 70.7 | 89.0 | 93.6 | 201.4 | 345.2 | 417.1 | 438.5 | 481.3 | 513.3 | 504.5 |
| 105° | 67.8 | 83.3 | 98.8 | 102.7 | 207.1 | 346.4 | 416.0 | 463.9 | 559.6 | 631.5 | 626.8 |
| 107.5° | 83.6 | 98.0 | 112.4 | 116.1 | 208.1 | 331.0 | 392.3 | 459.2 | 592.8 | 693.0 | 694.2 |
| 110° | 94.2 | 107.2 | 120.3 | 123.5 | 206.6 | 317.3 | 372.6 | 447.3 | 596.7 | 708.8 | 713.7 |



TEST NUMBER: P934410

CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

| | 0° | 10° | 20° | 22.5° | 30° | 40° | 45° | 50° | 60° | 67.5° | 70° |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 112.5° | 104.6 | 117.0 | 129.4 | 132.6 | 206.6 | 305.3 | 354.7 | 431.2 | 584.0 | 698.7 | 706.3 |
| 115° | 120.4 | 131.8 | 143.3 | 146.2 | 208.5 | 291.6 | 333.2 | 406.8 | 554.1 | 664.6 | 675.0 |
| 117.5° | 135.9 | 146.4 | 156.8 | 159.4 | 212.4 | 283.1 | 318.4 | 384.9 | 517.8 | 617.5 | 629.0 |
| 120° | 145.0 | 154.9 | 164.6 | 167.1 | 215.6 | 280.2 | 312.5 | 373.2 | 494.7 | 585.8 | 597.1 |
| 122.5° | 153.9 | 163.9 | 173.7 | 176.2 | 220.1 | 278.7 | 307.9 | 362.6 | 472.1 | 554.1 | 565.2 |
| 125° | 167.5 | 176.5 | 185.5 | 187.8 | 226.2 | 277.4 | 303.1 | 349.5 | 442.4 | 512.1 | 522.4 |
| 127.5° | 178.5 | 187.7 | 196.7 | 199.0 | 232.3 | 276.8 | 298.9 | 338.8 | 418.5 | 478.4 | 487.0 |
| 130° | 184.4 | 194.3 | 204.0 | 206.5 | 236.8 | 277.1 | 297.3 | 332.9 | 403.9 | 457.2 | 465.1 |
| 132.5° | 190.5 | 200.4 | 210.1 | 212.6 | 240.4 | 277.4 | 296.0 | 327.7 | 391.3 | 439.0 | 446.2 |
| 135° | 199.6 | 208.5 | 217.5 | 219.7 | 244.4 | 277.1 | 293.6 | 320.2 | 373.4 | 413.4 | 419.5 |
| 137.5° | 208.9 | 217.7 | 226.6 | 228.8 | 250.3 | 278.9 | 293.2 | 315.7 | 360.7 | 394.4 | 399.5 |
| 140° | 216.5 | 224.7 | 232.9 | 234.9 | 253.8 | 279.2 | 291.8 | 311.3 | 350.2 | 379.3 | 384.0 |
| 142.5° | 222.5 | 230.0 | 237.5 | 239.4 | 256.9 | 280.1 | 291.8 | 308.9 | 343.0 | 368.6 | 372.6 |
| 145° | 231.5 | 238.0 | 244.6 | 246.3 | 260.8 | 280.2 | 289.9 | 303.8 | 331.7 | 352.7 | 355.7 |
| 147.5° | 240.6 | 247.0 | 253.3 | 255.0 | 266.6 | 282.1 | 289.9 | 300.9 | 322.8 | 339.3 | 341.9 |
| 150° | 246.5 | 252.2 | 258.0 | 259.5 | 269.6 | 283.1 | 289.9 | 299.1 | 317.7 | 331.6 | 333.7 |
| 152.5° | 252.6 | 257.0 | 261.4 | 262.4 | 271.6 | 283.7 | 289.9 | 297.8 | 313.7 | 325.5 | 327.0 |
| 155° | 261.7 | 264.9 | 268.2 | 268.9 | 275.9 | 285.2 | 289.9 | 296.2 | 308.8 | 318.3 | 319.3 |
| 157.5° | 268.3 | 271.5 | 274.7 | 275.4 | 280.2 | 286.6 | 289.9 | 294.7 | 304.6 | 311.9 | 312.7 |
| 160° | 272.9 | 275.3 | 277.8 | 278.4 | 282.2 | 287.3 | 289.9 | 294.1 | 302.5 | 308.8 | 309.2 |
| 162.5° | 277.4 | 279.2 | 281.1 | 281.5 | 284.3 | 288.0 | 289.9 | 293.4 | 300.5 | 305.8 | 306.2 |
| 165° | 282.4 | 284.0 | 285.7 | 286.1 | 287.4 | 289.0 | 289.9 | 292.3 | 297.4 | 301.2 | 301.6 |
| 167.5° | 286.9 | 287.7 | 288.4 | 288.6 | 289.7 | 291.1 | 291.8 | 293.5 | 296.8 | 299.3 | 299.5 |
| 170° | 289.9 | 290.6 | 291.4 | 291.6 | 291.7 | 291.8 | 291.8 | 293.5 | 296.8 | 299.3 | 299.3 |
| 172.5° | 291.4 | 291.6 | 291.8 | 291.8 | 291.8 | 291.8 | 291.8 | 293.1 | 295.7 | 297.7 | 297.5 |
| 175° | 293.6 | 293.6 | 293.6 | 293.6 | 293.0 | 292.2 | 291.8 | 292.6 | 294.4 | 295.6 | 295.6 |
| 177.5° | 293.6 | 293.6 | 293.6 | 293.6 | 293.1 | 292.5 | 292.2 | 292.9 | 294.3 | 295.2 | 295.0 |
| 180° | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 |



TEST NUMBER: P934410
 CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

| | 80° | 90° | 100° | 110° | 112.5° | 120° | 130° | 135° | 140° | 150° | 157.5° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 |
| 2.5° | 1369.2 | 1365.5 | 1369.2 | 1366.7 | 1367.9 | 1364.1 | 1352.7 | 1349.0 | 1352.7 | 1356.6 | 1356.6 |
| 5° | 1385.6 | 1383.1 | 1385.6 | 1385.6 | 1384.4 | 1381.8 | 1369.2 | 1366.7 | 1369.2 | 1370.4 | 1367.9 |
| 7.5° | 1390.7 | 1386.9 | 1390.7 | 1388.1 | 1388.1 | 1385.6 | 1373.0 | 1370.4 | 1371.8 | 1375.5 | 1371.8 |
| 10° | 1390.7 | 1386.9 | 1390.7 | 1389.5 | 1388.1 | 1385.6 | 1373.0 | 1367.9 | 1367.9 | 1371.8 | 1367.9 |
| 12.5° | 1384.4 | 1381.8 | 1384.4 | 1381.8 | 1381.8 | 1379.3 | 1366.7 | 1361.6 | 1362.9 | 1364.1 | 1359.1 |
| 15° | 1374.2 | 1370.4 | 1374.2 | 1371.8 | 1373.0 | 1369.2 | 1355.3 | 1350.3 | 1350.3 | 1352.7 | 1343.9 |
| 17.5° | 1359.1 | 1354.1 | 1359.1 | 1357.8 | 1356.6 | 1354.1 | 1341.5 | 1336.4 | 1335.1 | 1336.4 | 1330.1 |
| 20° | 1341.5 | 1337.6 | 1341.5 | 1340.1 | 1340.1 | 1335.1 | 1322.4 | 1316.1 | 1316.1 | 1316.1 | 1309.8 |
| 22.5° | 1313.6 | 1309.8 | 1313.6 | 1316.1 | 1316.1 | 1314.9 | 1303.5 | 1294.7 | 1292.1 | 1292.1 | 1284.6 |
| 25° | 1282.1 | 1278.3 | 1282.1 | 1282.1 | 1280.8 | 1282.1 | 1278.3 | 1273.2 | 1269.4 | 1265.6 | 1258.1 |
| 27.5° | 1251.7 | 1249.2 | 1251.7 | 1249.2 | 1251.7 | 1248.0 | 1246.7 | 1245.4 | 1240.4 | 1236.6 | 1226.5 |
| 30° | 1221.4 | 1218.9 | 1221.4 | 1218.9 | 1216.4 | 1213.8 | 1207.5 | 1205.0 | 1210.0 | 1207.5 | 1191.1 |
| 32.5° | 1183.5 | 1181.0 | 1183.5 | 1183.5 | 1181.0 | 1181.0 | 1170.9 | 1167.1 | 1168.3 | 1176.0 | 1160.8 |
| 35° | 1144.3 | 1140.6 | 1144.3 | 1143.1 | 1144.3 | 1140.6 | 1134.3 | 1133.0 | 1128.0 | 1136.8 | 1125.4 |
| 37.5° | 1098.9 | 1095.1 | 1098.9 | 1098.9 | 1098.9 | 1101.4 | 1096.3 | 1092.6 | 1085.0 | 1096.3 | 1087.5 |
| 40° | 1052.2 | 1047.1 | 1052.2 | 1050.9 | 1052.2 | 1054.7 | 1052.2 | 1049.6 | 1042.0 | 1050.9 | 1043.3 |
| 42.5° | 999.1 | 997.9 | 999.1 | 1000.4 | 1000.4 | 1005.4 | 1009.2 | 1004.2 | 1001.6 | 995.3 | 1000.4 |
| 45° | 942.2 | 939.7 | 942.2 | 944.8 | 946.1 | 948.5 | 959.9 | 959.9 | 956.2 | 946.1 | 953.6 |
| 47.5° | 881.6 | 875.3 | 881.6 | 889.3 | 889.3 | 893.0 | 904.4 | 913.3 | 906.9 | 894.2 | 898.1 |
| 50° | 817.2 | 818.5 | 817.2 | 822.3 | 822.3 | 836.2 | 845.0 | 853.9 | 860.2 | 845.0 | 827.3 |
| 52.5° | 754.1 | 752.8 | 754.1 | 757.8 | 762.9 | 769.2 | 784.4 | 793.2 | 803.3 | 794.5 | 766.7 |
| 55° | 690.9 | 693.5 | 690.9 | 692.1 | 694.7 | 698.5 | 721.2 | 730.1 | 749.0 | 737.6 | 708.6 |
| 57.5° | 627.8 | 624.0 | 627.8 | 630.3 | 631.5 | 635.4 | 654.3 | 670.7 | 682.1 | 683.3 | 648.0 |
| 60° | 554.5 | 549.4 | 554.5 | 565.9 | 568.4 | 570.9 | 588.6 | 603.8 | 613.8 | 617.7 | 581.1 |
| 62.5° | 490.0 | 481.3 | 490.0 | 497.7 | 502.8 | 509.1 | 521.7 | 544.4 | 553.2 | 554.5 | 502.8 |
| 65° | 421.9 | 418.1 | 421.9 | 437.0 | 438.3 | 445.9 | 459.7 | 476.2 | 495.1 | 492.6 | 418.1 |
| 67.5° | 360.0 | 360.0 | 360.0 | 370.1 | 377.6 | 381.4 | 399.1 | 406.7 | 430.7 | 433.3 | 348.7 |
| 70° | 303.1 | 301.9 | 303.1 | 310.7 | 315.8 | 324.7 | 341.0 | 349.9 | 368.8 | 375.1 | 283.0 |
| 72.5° | 248.8 | 247.6 | 248.8 | 255.2 | 260.2 | 267.8 | 281.6 | 291.8 | 308.2 | 315.8 | 219.8 |
| 75° | 200.9 | 198.3 | 200.9 | 205.9 | 204.6 | 214.7 | 226.1 | 236.2 | 251.3 | 256.4 | 162.9 |
| 77.5° | 154.1 | 154.1 | 154.1 | 159.2 | 159.2 | 169.2 | 174.3 | 186.9 | 195.8 | 203.3 | 120.0 |
| 80° | 114.9 | 113.7 | 114.9 | 116.2 | 116.2 | 121.2 | 130.1 | 138.9 | 146.6 | 146.6 | 82.1 |
| 82.5° | 80.9 | 78.3 | 80.9 | 80.9 | 80.9 | 83.4 | 88.4 | 90.9 | 96.0 | 99.8 | 51.8 |
| 85° | 50.5 | 50.5 | 50.5 | 51.8 | 50.5 | 53.1 | 54.3 | 56.9 | 56.9 | 54.3 | 31.5 |
| 87.5° | 32.9 | 31.5 | 32.9 | 31.5 | 31.5 | 30.3 | 30.3 | 30.3 | 29.1 | 27.8 | 17.7 |
| 90° | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 9.9 | 13.3 | 15.0 | 12.9 | 8.7 | 5.5 |
| 92.5° | 30.0 | 24.0 | 30.0 | 35.9 | 37.5 | 53.1 | 73.9 | 84.3 | 74.0 | 53.4 | 38.0 |
| 95° | 104.5 | 86.5 | 104.5 | 122.6 | 127.1 | 166.8 | 219.9 | 246.5 | 208.1 | 131.5 | 74.1 |
| 97.5° | 250.5 | 216.2 | 250.5 | 284.8 | 293.4 | 318.5 | 352.1 | 368.8 | 305.0 | 177.1 | 81.4 |
| 100° | 360.9 | 320.0 | 360.9 | 401.8 | 412.0 | 410.2 | 407.7 | 406.5 | 335.6 | 193.8 | 87.5 |
| 102.5° | 469.5 | 434.5 | 469.5 | 504.5 | 513.3 | 481.3 | 438.5 | 417.1 | 345.2 | 201.4 | 93.6 |
| 105° | 608.0 | 589.2 | 608.0 | 626.8 | 631.5 | 559.6 | 463.9 | 416.0 | 346.4 | 207.1 | 102.7 |
| 107.5° | 698.6 | 703.2 | 698.6 | 694.2 | 693.0 | 592.8 | 459.2 | 392.3 | 331.0 | 208.1 | 116.1 |
| 110° | 733.3 | 752.8 | 733.3 | 713.7 | 708.8 | 596.7 | 447.3 | 372.6 | 317.3 | 206.6 | 123.5 |



TEST NUMBER: P934410

CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

| | 80° | 90° | 100° | 110° | 112.5° | 120° | 130° | 135° | 140° | 150° | 157.5° |
|--------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|--------|
| 112.5° | 736.4 | 766.5 | 736.4 | 706.3 | 698.7 | 584.0 | 431.2 | 354.7 | 305.3 | 206.6 | 132.6 |
| 115° | 716.8 | 758.6 | 716.8 | 675.0 | 664.6 | 554.1 | 406.8 | 333.2 | 291.6 | 208.5 | 146.2 |
| 117.5° | 675.4 | 721.8 | 675.4 | 629.0 | 617.5 | 517.8 | 384.9 | 318.4 | 283.1 | 212.4 | 159.4 |
| 120° | 642.0 | 687.1 | 642.0 | 597.1 | 585.8 | 494.7 | 373.2 | 312.5 | 280.2 | 215.6 | 167.1 |
| 122.5° | 609.6 | 654.0 | 609.6 | 565.2 | 554.1 | 472.1 | 362.6 | 307.9 | 278.7 | 220.1 | 176.2 |
| 125° | 563.2 | 604.1 | 563.2 | 522.4 | 512.1 | 442.4 | 349.5 | 303.1 | 277.4 | 226.2 | 187.8 |
| 127.5° | 521.5 | 556.0 | 521.5 | 487.0 | 478.4 | 418.5 | 338.8 | 298.9 | 276.8 | 232.3 | 199.0 |
| 130° | 497.0 | 528.9 | 497.0 | 465.1 | 457.2 | 403.9 | 332.9 | 297.3 | 277.1 | 236.8 | 206.5 |
| 132.5° | 474.7 | 503.2 | 474.7 | 446.2 | 439.0 | 391.3 | 327.7 | 296.0 | 277.4 | 240.4 | 212.6 |
| 135° | 444.2 | 468.7 | 444.2 | 419.5 | 413.4 | 373.4 | 320.2 | 293.6 | 277.1 | 244.4 | 219.7 |
| 137.5° | 419.6 | 439.8 | 419.6 | 399.5 | 394.4 | 360.7 | 315.7 | 293.2 | 278.9 | 250.3 | 228.8 |
| 140° | 402.9 | 421.7 | 402.9 | 384.0 | 379.3 | 350.2 | 311.3 | 291.8 | 279.2 | 253.8 | 234.9 |
| 142.5° | 388.9 | 405.2 | 388.9 | 372.6 | 368.6 | 343.0 | 308.9 | 291.8 | 280.1 | 256.9 | 239.4 |
| 145° | 368.1 | 380.3 | 368.1 | 355.7 | 352.7 | 331.7 | 303.8 | 289.9 | 280.2 | 260.8 | 246.3 |
| 147.5° | 352.0 | 362.1 | 352.0 | 341.9 | 339.3 | 322.8 | 300.9 | 289.9 | 282.1 | 266.6 | 255.0 |
| 150° | 342.0 | 350.2 | 342.0 | 333.7 | 331.6 | 317.7 | 299.1 | 289.9 | 283.1 | 269.6 | 259.5 |
| 152.5° | 333.3 | 339.5 | 333.3 | 327.0 | 325.5 | 313.7 | 297.8 | 289.9 | 283.7 | 271.6 | 262.4 |
| 155° | 323.4 | 327.5 | 323.4 | 319.3 | 318.3 | 308.8 | 296.2 | 289.9 | 285.2 | 275.9 | 268.9 |
| 157.5° | 315.6 | 318.4 | 315.6 | 312.7 | 311.9 | 304.6 | 294.7 | 289.9 | 286.6 | 280.2 | 275.4 |
| 160° | 310.9 | 312.5 | 310.9 | 309.2 | 308.8 | 302.5 | 294.1 | 289.9 | 287.3 | 282.2 | 278.4 |
| 162.5° | 307.8 | 309.4 | 307.8 | 306.2 | 305.8 | 300.5 | 293.4 | 289.9 | 288.0 | 284.3 | 281.5 |
| 165° | 303.3 | 305.1 | 303.3 | 301.6 | 301.2 | 297.4 | 292.3 | 289.9 | 289.0 | 287.4 | 286.1 |
| 167.5° | 300.2 | 300.9 | 300.2 | 299.5 | 299.3 | 296.8 | 293.5 | 291.8 | 291.1 | 289.7 | 288.6 |
| 170° | 299.3 | 299.3 | 299.3 | 299.3 | 299.3 | 296.8 | 293.5 | 291.8 | 291.8 | 291.7 | 291.6 |
| 172.5° | 296.9 | 296.4 | 296.9 | 297.5 | 297.7 | 295.7 | 293.1 | 291.8 | 291.8 | 291.8 | 291.8 |
| 175° | 295.6 | 295.6 | 295.6 | 295.6 | 295.6 | 294.4 | 292.6 | 291.8 | 292.2 | 293.0 | 293.6 |
| 177.5° | 294.4 | 293.6 | 294.4 | 295.0 | 295.2 | 294.3 | 292.9 | 292.2 | 292.5 | 293.1 | 293.6 |
| 180° | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 |



TEST NUMBER: P934410

CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

| | 160° | 170° | 180° | 190° | 200° | 202.5° | 210° | 220° | 225° | 230° | 240° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 |
| 2.5° | 1354.1 | 1346.4 | 1346.4 | 1333.8 | 1328.7 | 1325.0 | 1318.7 | 1299.8 | 1294.7 | 1289.6 | 1297.2 |
| 5° | 1365.5 | 1351.5 | 1341.5 | 1318.7 | 1299.8 | 1292.1 | 1268.1 | 1222.7 | 1192.3 | 1169.7 | 1157.0 |
| 7.5° | 1367.9 | 1350.3 | 1331.3 | 1296.0 | 1250.4 | 1230.3 | 1157.0 | 1073.7 | 1050.9 | 1030.7 | 1018.0 |
| 10° | 1365.5 | 1345.2 | 1318.7 | 1265.6 | 1158.3 | 1122.9 | 1049.6 | 995.3 | 981.4 | 977.6 | 981.4 |
| 12.5° | 1356.6 | 1337.6 | 1301.0 | 1212.6 | 1062.3 | 1038.3 | 995.3 | 963.7 | 961.3 | 967.6 | 1001.6 |
| 15° | 1341.5 | 1323.8 | 1280.8 | 1141.8 | 1009.2 | 991.6 | 961.3 | 949.9 | 963.7 | 1007.9 | 1110.3 |
| 17.5° | 1326.3 | 1306.1 | 1253.0 | 1072.3 | 968.8 | 956.2 | 934.7 | 957.4 | 1035.7 | 1095.1 | 1129.2 |
| 20° | 1306.1 | 1282.1 | 1221.4 | 1021.9 | 939.7 | 928.4 | 918.2 | 1020.6 | 1080.0 | 1101.4 | 1120.3 |
| 22.5° | 1282.1 | 1256.8 | 1178.5 | 986.5 | 909.4 | 900.6 | 906.9 | 1056.0 | 1080.0 | 1095.1 | 1111.5 |
| 25° | 1250.4 | 1229.0 | 1128.0 | 958.7 | 885.4 | 875.3 | 899.3 | 1052.2 | 1066.0 | 1069.9 | 1102.7 |
| 27.5° | 1221.4 | 1193.7 | 1074.9 | 933.4 | 856.4 | 852.6 | 905.6 | 1035.7 | 1045.9 | 1049.6 | 1085.0 |
| 30° | 1186.0 | 1144.3 | 1015.6 | 906.9 | 826.1 | 824.8 | 906.9 | 1015.6 | 1013.0 | 1023.1 | 1058.5 |
| 32.5° | 1149.4 | 1071.1 | 948.5 | 874.1 | 797.0 | 795.8 | 898.1 | 985.3 | 982.7 | 996.6 | 1023.1 |
| 35° | 1115.4 | 1014.3 | 857.6 | 836.2 | 760.4 | 761.6 | 876.6 | 949.9 | 951.1 | 963.7 | 980.2 |
| 37.5° | 1080.0 | 965.0 | 757.8 | 794.5 | 725.0 | 725.0 | 847.5 | 917.0 | 914.5 | 918.2 | 941.0 |
| 40° | 1038.3 | 887.9 | 669.5 | 740.1 | 692.1 | 688.4 | 812.2 | 881.6 | 872.8 | 871.6 | 903.1 |
| 42.5° | 994.0 | 803.3 | 603.8 | 668.1 | 654.3 | 649.2 | 769.2 | 838.7 | 822.3 | 826.1 | 866.5 |
| 45° | 946.1 | 780.6 | 553.2 | 564.6 | 615.1 | 611.4 | 722.4 | 789.5 | 778.1 | 788.2 | 829.9 |
| 47.5° | 898.1 | 735.2 | 536.8 | 468.6 | 573.4 | 572.2 | 670.7 | 741.5 | 735.2 | 745.2 | 789.5 |
| 50° | 832.4 | 684.6 | 535.6 | 401.7 | 526.8 | 531.7 | 608.8 | 694.7 | 694.7 | 703.5 | 750.3 |
| 52.5° | 747.8 | 622.7 | 486.3 | 363.8 | 472.4 | 487.6 | 554.5 | 654.3 | 656.8 | 665.7 | 707.3 |
| 55° | 670.7 | 558.3 | 450.9 | 334.7 | 408.0 | 440.8 | 501.4 | 612.6 | 617.7 | 626.5 | 664.4 |
| 57.5° | 600.0 | 464.8 | 443.4 | 300.7 | 348.7 | 380.2 | 454.7 | 572.2 | 574.7 | 582.3 | 618.9 |
| 60° | 524.2 | 335.9 | 406.7 | 264.0 | 296.8 | 320.8 | 411.7 | 524.2 | 533.1 | 538.0 | 569.7 |
| 62.5° | 438.3 | 243.8 | 368.8 | 238.7 | 271.6 | 276.7 | 376.4 | 478.7 | 490.0 | 493.9 | 512.8 |
| 65° | 311.9 | 204.6 | 313.3 | 217.3 | 245.0 | 246.3 | 338.5 | 432.0 | 442.1 | 448.4 | 462.3 |
| 67.5° | 210.9 | 166.7 | 238.7 | 197.0 | 224.9 | 226.1 | 301.9 | 377.6 | 391.6 | 396.6 | 405.4 |
| 70° | 146.6 | 111.2 | 176.9 | 175.6 | 202.1 | 204.6 | 262.7 | 328.4 | 341.0 | 344.8 | 349.9 |
| 72.5° | 107.4 | 89.7 | 146.6 | 157.9 | 178.1 | 180.6 | 222.3 | 272.8 | 285.5 | 289.3 | 291.8 |
| 75° | 82.1 | 94.7 | 118.7 | 137.7 | 151.5 | 152.9 | 181.9 | 222.3 | 231.2 | 233.6 | 234.9 |
| 77.5° | 65.7 | 88.4 | 87.2 | 111.2 | 123.8 | 121.2 | 142.7 | 171.8 | 179.3 | 179.3 | 179.3 |
| 80° | 49.2 | 69.5 | 65.7 | 79.5 | 90.9 | 88.4 | 102.3 | 122.6 | 125.0 | 127.5 | 126.3 |
| 82.5° | 36.6 | 44.2 | 44.2 | 50.5 | 60.6 | 58.1 | 68.2 | 79.5 | 79.5 | 79.5 | 82.1 |
| 85° | 22.8 | 25.2 | 20.2 | 26.5 | 34.1 | 32.9 | 37.9 | 42.9 | 44.2 | 44.2 | 41.7 |
| 87.5° | 13.9 | 11.4 | 6.3 | 10.1 | 15.2 | 15.2 | 17.7 | 18.9 | 17.7 | 17.7 | 17.7 |
| 90° | 5.2 | 3.5 | 2.0 | 3.5 | 5.2 | 5.5 | 8.7 | 12.9 | 15.0 | 13.3 | 9.9 |
| 92.5° | 34.7 | 21.2 | 7.8 | 21.2 | 34.7 | 38.0 | 53.4 | 74.0 | 84.3 | 73.9 | 53.1 |
| 95° | 68.0 | 43.4 | 18.9 | 43.4 | 68.0 | 74.1 | 131.5 | 208.1 | 246.5 | 219.9 | 166.8 |
| 97.5° | 75.9 | 54.3 | 32.7 | 54.3 | 75.9 | 81.4 | 177.1 | 305.0 | 368.8 | 352.1 | 318.5 |
| 100° | 82.6 | 62.9 | 43.3 | 62.9 | 82.6 | 87.5 | 193.8 | 335.6 | 406.5 | 407.7 | 410.2 |
| 102.5° | 89.0 | 70.7 | 52.4 | 70.7 | 89.0 | 93.6 | 201.4 | 345.2 | 417.1 | 438.5 | 481.3 |
| 105° | 98.8 | 83.3 | 67.8 | 83.3 | 98.8 | 102.7 | 207.1 | 346.4 | 416.0 | 463.9 | 559.6 |
| 107.5° | 112.4 | 98.0 | 83.6 | 98.0 | 112.4 | 116.1 | 208.1 | 331.0 | 392.3 | 459.2 | 592.8 |
| 110° | 120.3 | 107.2 | 94.2 | 107.2 | 120.3 | 123.5 | 206.6 | 317.3 | 372.6 | 447.3 | 596.7 |



TEST NUMBER: P934410

CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

| | 160° | 170° | 180° | 190° | 200° | 202.5° | 210° | 220° | 225° | 230° | 240° |
|--------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|
| 112.5° | 129.4 | 117.0 | 104.6 | 117.0 | 129.4 | 132.6 | 206.6 | 305.3 | 354.7 | 431.2 | 584.0 |
| 115° | 143.3 | 131.8 | 120.4 | 131.8 | 143.3 | 146.2 | 208.5 | 291.6 | 333.2 | 406.8 | 554.1 |
| 117.5° | 156.8 | 146.4 | 135.9 | 146.4 | 156.8 | 159.4 | 212.4 | 283.1 | 318.4 | 384.9 | 517.8 |
| 120° | 164.6 | 154.9 | 145.0 | 154.9 | 164.6 | 167.1 | 215.6 | 280.2 | 312.5 | 373.2 | 494.7 |
| 122.5° | 173.7 | 163.9 | 153.9 | 163.9 | 173.7 | 176.2 | 220.1 | 278.7 | 307.9 | 362.6 | 472.1 |
| 125° | 185.5 | 176.5 | 167.5 | 176.5 | 185.5 | 187.8 | 226.2 | 277.4 | 303.1 | 349.5 | 442.4 |
| 127.5° | 196.7 | 187.7 | 178.5 | 187.7 | 196.7 | 199.0 | 232.3 | 276.8 | 298.9 | 338.8 | 418.5 |
| 130° | 204.0 | 194.3 | 184.4 | 194.3 | 204.0 | 206.5 | 236.8 | 277.1 | 297.3 | 332.9 | 403.9 |
| 132.5° | 210.1 | 200.4 | 190.5 | 200.4 | 210.1 | 212.6 | 240.4 | 277.4 | 296.0 | 327.7 | 391.3 |
| 135° | 217.5 | 208.5 | 199.6 | 208.5 | 217.5 | 219.7 | 244.4 | 277.1 | 293.6 | 320.2 | 373.4 |
| 137.5° | 226.6 | 217.7 | 208.9 | 217.7 | 226.6 | 228.8 | 250.3 | 278.9 | 293.2 | 315.7 | 360.7 |
| 140° | 232.9 | 224.7 | 216.5 | 224.7 | 232.9 | 234.9 | 253.8 | 279.2 | 291.8 | 311.3 | 350.2 |
| 142.5° | 237.5 | 230.0 | 222.5 | 230.0 | 237.5 | 239.4 | 256.9 | 280.1 | 291.8 | 308.9 | 343.0 |
| 145° | 244.6 | 238.0 | 231.5 | 238.0 | 244.6 | 246.3 | 260.8 | 280.2 | 289.9 | 303.8 | 331.7 |
| 147.5° | 253.3 | 247.0 | 240.6 | 247.0 | 253.3 | 255.0 | 266.6 | 282.1 | 289.9 | 300.9 | 322.8 |
| 150° | 258.0 | 252.2 | 246.5 | 252.2 | 258.0 | 259.5 | 269.6 | 283.1 | 289.9 | 299.1 | 317.7 |
| 152.5° | 261.4 | 257.0 | 252.6 | 257.0 | 261.4 | 262.4 | 271.6 | 283.7 | 289.9 | 297.8 | 313.7 |
| 155° | 268.2 | 264.9 | 261.7 | 264.9 | 268.2 | 268.9 | 275.9 | 285.2 | 289.9 | 296.2 | 308.8 |
| 157.5° | 274.7 | 271.5 | 268.3 | 271.5 | 274.7 | 275.4 | 280.2 | 286.6 | 289.9 | 294.7 | 304.6 |
| 160° | 277.8 | 275.3 | 272.9 | 275.3 | 277.8 | 278.4 | 282.2 | 287.3 | 289.9 | 294.1 | 302.5 |
| 162.5° | 281.1 | 279.2 | 277.4 | 279.2 | 281.1 | 281.5 | 284.3 | 288.0 | 289.9 | 293.4 | 300.5 |
| 165° | 285.7 | 284.0 | 282.4 | 284.0 | 285.7 | 286.1 | 287.4 | 289.0 | 289.9 | 292.3 | 297.4 |
| 167.5° | 288.4 | 287.7 | 286.9 | 287.7 | 288.4 | 288.6 | 289.7 | 291.1 | 291.8 | 293.5 | 296.8 |
| 170° | 291.4 | 290.6 | 289.9 | 290.6 | 291.4 | 291.6 | 291.7 | 291.8 | 291.8 | 293.5 | 296.8 |
| 172.5° | 291.8 | 291.6 | 291.4 | 291.6 | 291.8 | 291.8 | 291.8 | 291.8 | 291.8 | 293.1 | 295.7 |
| 175° | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.0 | 292.2 | 291.8 | 292.6 | 294.4 |
| 177.5° | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.1 | 292.5 | 292.2 | 292.9 | 294.3 |
| 180° | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 |



TEST NUMBER: P934410
 CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

| | 247.5° | 250° | 260° | 270° | 280° | 290° | 292.5° | 300° | 310° | 315° | 320° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 |
| 2.5° | 1288.4 | 1284.6 | 1289.6 | 1275.7 | 1289.6 | 1284.6 | 1288.4 | 1297.2 | 1289.6 | 1294.7 | 1299.8 |
| 5° | 1130.5 | 1124.2 | 1104.0 | 1087.5 | 1104.0 | 1124.2 | 1130.5 | 1157.0 | 1169.7 | 1192.3 | 1222.7 |
| 7.5° | 1010.5 | 1005.4 | 1000.4 | 990.2 | 1000.4 | 1005.4 | 1010.5 | 1018.0 | 1030.7 | 1050.9 | 1073.7 |
| 10° | 983.9 | 985.3 | 992.8 | 991.6 | 992.8 | 985.3 | 983.9 | 981.4 | 977.6 | 981.4 | 995.3 |
| 12.5° | 1052.2 | 1063.6 | 1105.2 | 1102.7 | 1105.2 | 1063.6 | 1052.2 | 1001.6 | 967.6 | 961.3 | 963.7 |
| 15° | 1130.5 | 1134.3 | 1143.1 | 1144.3 | 1143.1 | 1134.3 | 1130.5 | 1110.3 | 1007.9 | 963.7 | 949.9 |
| 17.5° | 1138.0 | 1139.4 | 1145.7 | 1145.7 | 1145.7 | 1139.4 | 1138.0 | 1129.2 | 1095.1 | 1035.7 | 957.4 |
| 20° | 1131.7 | 1134.3 | 1146.9 | 1149.4 | 1146.9 | 1134.3 | 1131.7 | 1120.3 | 1101.4 | 1080.0 | 1020.6 |
| 22.5° | 1129.2 | 1134.3 | 1144.3 | 1143.1 | 1144.3 | 1134.3 | 1129.2 | 1111.5 | 1095.1 | 1080.0 | 1056.0 |
| 25° | 1116.6 | 1116.6 | 1117.9 | 1119.1 | 1117.9 | 1116.6 | 1116.6 | 1102.7 | 1069.9 | 1066.0 | 1052.2 |
| 27.5° | 1090.0 | 1092.6 | 1100.2 | 1098.9 | 1100.2 | 1092.6 | 1090.0 | 1085.0 | 1049.6 | 1045.9 | 1035.7 |
| 30° | 1066.0 | 1063.6 | 1057.2 | 1052.2 | 1057.2 | 1063.6 | 1066.0 | 1058.5 | 1023.1 | 1013.0 | 1015.6 |
| 32.5° | 1025.6 | 1019.3 | 1013.0 | 1009.2 | 1013.0 | 1019.3 | 1025.6 | 1023.1 | 996.6 | 982.7 | 985.3 |
| 35° | 977.6 | 978.9 | 977.6 | 973.9 | 977.6 | 978.9 | 977.6 | 980.2 | 963.7 | 951.1 | 949.9 |
| 37.5° | 943.6 | 946.1 | 944.8 | 939.7 | 944.8 | 946.1 | 943.6 | 941.0 | 918.2 | 914.5 | 917.0 |
| 40° | 908.2 | 909.4 | 908.2 | 904.4 | 908.2 | 909.4 | 908.2 | 903.1 | 871.6 | 872.8 | 881.6 |
| 42.5° | 874.1 | 872.8 | 869.0 | 866.5 | 869.0 | 872.8 | 874.1 | 866.5 | 826.1 | 822.3 | 838.7 |
| 45° | 834.9 | 836.2 | 828.6 | 824.8 | 828.6 | 836.2 | 834.9 | 829.9 | 788.2 | 778.1 | 789.5 |
| 47.5° | 795.8 | 795.8 | 789.5 | 785.6 | 789.5 | 795.8 | 795.8 | 789.5 | 745.2 | 735.2 | 741.5 |
| 50° | 754.1 | 752.8 | 744.0 | 742.7 | 744.0 | 752.8 | 754.1 | 750.3 | 703.5 | 694.7 | 694.7 |
| 52.5° | 706.1 | 706.1 | 707.3 | 709.8 | 707.3 | 706.1 | 706.1 | 707.3 | 665.7 | 656.8 | 654.3 |
| 55° | 664.4 | 665.7 | 674.5 | 677.0 | 674.5 | 665.7 | 664.4 | 664.4 | 626.5 | 617.7 | 612.6 |
| 57.5° | 621.4 | 621.4 | 627.8 | 627.8 | 627.8 | 621.4 | 621.4 | 618.9 | 582.3 | 574.7 | 572.2 |
| 60° | 572.2 | 574.7 | 579.7 | 578.5 | 579.7 | 574.7 | 572.2 | 569.7 | 538.0 | 533.1 | 524.2 |
| 62.5° | 520.4 | 522.9 | 524.2 | 521.7 | 524.2 | 522.9 | 520.4 | 512.8 | 493.9 | 490.0 | 478.7 |
| 65° | 466.0 | 468.6 | 469.9 | 467.4 | 469.9 | 468.6 | 466.0 | 462.3 | 448.4 | 442.1 | 432.0 |
| 67.5° | 410.5 | 409.3 | 408.0 | 413.0 | 408.0 | 409.3 | 410.5 | 405.4 | 396.6 | 391.6 | 377.6 |
| 70° | 353.6 | 353.6 | 352.4 | 355.0 | 352.4 | 353.6 | 353.6 | 349.9 | 344.8 | 341.0 | 328.4 |
| 72.5° | 293.0 | 291.8 | 296.8 | 293.0 | 296.8 | 291.8 | 293.0 | 291.8 | 289.3 | 285.5 | 272.8 |
| 75° | 233.6 | 236.2 | 233.6 | 237.5 | 233.6 | 236.2 | 233.6 | 234.9 | 233.6 | 231.2 | 222.3 |
| 77.5° | 178.1 | 180.6 | 178.1 | 178.1 | 178.1 | 180.6 | 178.1 | 179.3 | 179.3 | 179.3 | 171.8 |
| 80° | 126.3 | 125.0 | 125.0 | 123.8 | 125.0 | 125.0 | 126.3 | 126.3 | 127.5 | 125.0 | 122.6 |
| 82.5° | 80.9 | 79.5 | 79.5 | 82.1 | 79.5 | 79.5 | 80.9 | 82.1 | 79.5 | 79.5 | 79.5 |
| 85° | 44.2 | 45.5 | 42.9 | 42.9 | 42.9 | 45.5 | 44.2 | 41.7 | 44.2 | 44.2 | 42.9 |
| 87.5° | 16.4 | 15.2 | 15.2 | 15.2 | 15.2 | 15.2 | 16.4 | 17.7 | 17.7 | 17.7 | 18.9 |
| 90° | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 9.9 | 13.3 | 15.0 | 12.9 |
| 92.5° | 37.5 | 35.9 | 30.0 | 24.0 | 30.0 | 35.9 | 37.5 | 53.1 | 73.9 | 84.3 | 74.0 |
| 95° | 127.1 | 122.6 | 104.5 | 86.5 | 104.5 | 122.6 | 127.1 | 166.8 | 219.9 | 246.5 | 208.1 |
| 97.5° | 293.4 | 284.8 | 250.5 | 216.2 | 250.5 | 284.8 | 293.4 | 318.5 | 352.1 | 368.8 | 305.0 |
| 100° | 412.0 | 401.8 | 360.9 | 320.0 | 360.9 | 401.8 | 412.0 | 410.2 | 407.7 | 406.5 | 335.6 |
| 102.5° | 513.3 | 504.5 | 469.5 | 434.5 | 469.5 | 504.5 | 513.3 | 481.3 | 438.5 | 417.1 | 345.2 |
| 105° | 631.5 | 626.8 | 608.0 | 589.2 | 608.0 | 626.8 | 631.5 | 559.6 | 463.9 | 416.0 | 346.4 |
| 107.5° | 693.0 | 694.2 | 698.6 | 703.2 | 698.6 | 694.2 | 693.0 | 592.8 | 459.2 | 392.3 | 331.0 |
| 110° | 708.8 | 713.7 | 733.3 | 752.8 | 733.3 | 713.7 | 708.8 | 596.7 | 447.3 | 372.6 | 317.3 |



TEST NUMBER: P934410

CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

| | 247.5° | 250° | 260° | 270° | 280° | 290° | 292.5° | 300° | 310° | 315° | 320° |
|--------|--------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|
| 112.5° | 698.7 | 706.3 | 736.4 | 766.5 | 736.4 | 706.3 | 698.7 | 584.0 | 431.2 | 354.7 | 305.3 |
| 115° | 664.6 | 675.0 | 716.8 | 758.6 | 716.8 | 675.0 | 664.6 | 554.1 | 406.8 | 333.2 | 291.6 |
| 117.5° | 617.5 | 629.0 | 675.4 | 721.8 | 675.4 | 629.0 | 617.5 | 517.8 | 384.9 | 318.4 | 283.1 |
| 120° | 585.8 | 597.1 | 642.0 | 687.1 | 642.0 | 597.1 | 585.8 | 494.7 | 373.2 | 312.5 | 280.2 |
| 122.5° | 554.1 | 565.2 | 609.6 | 654.0 | 609.6 | 565.2 | 554.1 | 472.1 | 362.6 | 307.9 | 278.7 |
| 125° | 512.1 | 522.4 | 563.2 | 604.1 | 563.2 | 522.4 | 512.1 | 442.4 | 349.5 | 303.1 | 277.4 |
| 127.5° | 478.4 | 487.0 | 521.5 | 556.0 | 521.5 | 487.0 | 478.4 | 418.5 | 338.8 | 298.9 | 276.8 |
| 130° | 457.2 | 465.1 | 497.0 | 528.9 | 497.0 | 465.1 | 457.2 | 403.9 | 332.9 | 297.3 | 277.1 |
| 132.5° | 439.0 | 446.2 | 474.7 | 503.2 | 474.7 | 446.2 | 439.0 | 391.3 | 327.7 | 296.0 | 277.4 |
| 135° | 413.4 | 419.5 | 444.2 | 468.7 | 444.2 | 419.5 | 413.4 | 373.4 | 320.2 | 293.6 | 277.1 |
| 137.5° | 394.4 | 399.5 | 419.6 | 439.8 | 419.6 | 399.5 | 394.4 | 360.7 | 315.7 | 293.2 | 278.9 |
| 140° | 379.3 | 384.0 | 402.9 | 421.7 | 402.9 | 384.0 | 379.3 | 350.2 | 311.3 | 291.8 | 279.2 |
| 142.5° | 368.6 | 372.6 | 388.9 | 405.2 | 388.9 | 372.6 | 368.6 | 343.0 | 308.9 | 291.8 | 280.1 |
| 145° | 352.7 | 355.7 | 368.1 | 380.3 | 368.1 | 355.7 | 352.7 | 331.7 | 303.8 | 289.9 | 280.2 |
| 147.5° | 339.3 | 341.9 | 352.0 | 362.1 | 352.0 | 341.9 | 339.3 | 322.8 | 300.9 | 289.9 | 282.1 |
| 150° | 331.6 | 333.7 | 342.0 | 350.2 | 342.0 | 333.7 | 331.6 | 317.7 | 299.1 | 289.9 | 283.1 |
| 152.5° | 325.5 | 327.0 | 333.3 | 339.5 | 333.3 | 327.0 | 325.5 | 313.7 | 297.8 | 289.9 | 283.7 |
| 155° | 318.3 | 319.3 | 323.4 | 327.5 | 323.4 | 319.3 | 318.3 | 308.8 | 296.2 | 289.9 | 285.2 |
| 157.5° | 311.9 | 312.7 | 315.6 | 318.4 | 315.6 | 312.7 | 311.9 | 304.6 | 294.7 | 289.9 | 286.6 |
| 160° | 308.8 | 309.2 | 310.9 | 312.5 | 310.9 | 309.2 | 308.8 | 302.5 | 294.1 | 289.9 | 287.3 |
| 162.5° | 305.8 | 306.2 | 307.8 | 309.4 | 307.8 | 306.2 | 305.8 | 300.5 | 293.4 | 289.9 | 288.0 |
| 165° | 301.2 | 301.6 | 303.3 | 305.1 | 303.3 | 301.6 | 301.2 | 297.4 | 292.3 | 289.9 | 289.0 |
| 167.5° | 299.3 | 299.5 | 300.2 | 300.9 | 300.2 | 299.5 | 299.3 | 296.8 | 293.5 | 291.8 | 291.1 |
| 170° | 299.3 | 299.3 | 299.3 | 299.3 | 299.3 | 299.3 | 299.3 | 296.8 | 293.5 | 291.8 | 291.8 |
| 172.5° | 297.7 | 297.5 | 296.9 | 296.4 | 296.9 | 297.5 | 297.7 | 295.7 | 293.1 | 291.8 | 291.8 |
| 175° | 295.6 | 295.6 | 295.6 | 295.6 | 295.6 | 295.6 | 295.6 | 294.4 | 292.6 | 291.8 | 292.2 |
| 177.5° | 295.2 | 295.0 | 294.4 | 293.6 | 294.4 | 295.0 | 295.2 | 294.3 | 292.9 | 292.2 | 292.5 |
| 180° | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 |



TEST NUMBER: P934410

CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

| | 330° | 337.5° | 340° | 350° | 360° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1335.1 | 1335.1 | 1335.1 | 1335.1 | 1335.1 |
| 2.5° | 1318.7 | 1325.0 | 1328.7 | 1333.8 | 1346.4 |
| 5° | 1268.1 | 1292.1 | 1299.8 | 1318.7 | 1341.5 |
| 7.5° | 1157.0 | 1230.3 | 1250.4 | 1296.0 | 1331.3 |
| 10° | 1049.6 | 1122.9 | 1158.3 | 1265.6 | 1318.7 |
| 12.5° | 995.3 | 1038.3 | 1062.3 | 1212.6 | 1301.0 |
| 15° | 961.3 | 991.6 | 1009.2 | 1141.8 | 1280.8 |
| 17.5° | 934.7 | 956.2 | 968.8 | 1072.3 | 1253.0 |
| 20° | 918.2 | 928.4 | 939.7 | 1021.9 | 1221.4 |
| 22.5° | 906.9 | 900.6 | 909.4 | 986.5 | 1178.5 |
| 25° | 899.3 | 875.3 | 885.4 | 958.7 | 1128.0 |
| 27.5° | 905.6 | 852.6 | 856.4 | 933.4 | 1074.9 |
| 30° | 906.9 | 824.8 | 826.1 | 906.9 | 1015.6 |
| 32.5° | 898.1 | 795.8 | 797.0 | 874.1 | 948.5 |
| 35° | 876.6 | 761.6 | 760.4 | 836.2 | 857.6 |
| 37.5° | 847.5 | 725.0 | 725.0 | 794.5 | 757.8 |
| 40° | 812.2 | 688.4 | 692.1 | 740.1 | 669.5 |
| 42.5° | 769.2 | 649.2 | 654.3 | 668.1 | 603.8 |
| 45° | 722.4 | 611.4 | 615.1 | 564.6 | 553.2 |
| 47.5° | 670.7 | 572.2 | 573.4 | 468.6 | 536.8 |
| 50° | 608.8 | 531.7 | 526.8 | 401.7 | 535.6 |
| 52.5° | 554.5 | 487.6 | 472.4 | 363.8 | 486.3 |
| 55° | 501.4 | 440.8 | 408.0 | 334.7 | 450.9 |
| 57.5° | 454.7 | 380.2 | 348.7 | 300.7 | 443.4 |
| 60° | 411.7 | 320.8 | 296.8 | 264.0 | 406.7 |
| 62.5° | 376.4 | 276.7 | 271.6 | 238.7 | 368.8 |
| 65° | 338.5 | 246.3 | 245.0 | 217.3 | 313.3 |
| 67.5° | 301.9 | 226.1 | 224.9 | 197.0 | 238.7 |
| 70° | 262.7 | 204.6 | 202.1 | 175.6 | 176.9 |
| 72.5° | 222.3 | 180.6 | 178.1 | 157.9 | 146.6 |
| 75° | 181.9 | 152.9 | 151.5 | 137.7 | 118.7 |
| 77.5° | 142.7 | 121.2 | 123.8 | 111.2 | 87.2 |
| 80° | 102.3 | 88.4 | 90.9 | 79.5 | 65.7 |
| 82.5° | 68.2 | 58.1 | 60.6 | 50.5 | 44.2 |
| 85° | 37.9 | 32.9 | 34.1 | 26.5 | 20.2 |
| 87.5° | 17.7 | 15.2 | 15.2 | 10.1 | 6.3 |
| 90° | 8.7 | 5.5 | 5.2 | 3.5 | 2.0 |
| 92.5° | 53.4 | 38.0 | 34.7 | 21.2 | 7.8 |
| 95° | 131.5 | 74.1 | 68.0 | 43.4 | 18.9 |
| 97.5° | 177.1 | 81.4 | 75.9 | 54.3 | 32.7 |
| 100° | 193.8 | 87.5 | 82.6 | 62.9 | 43.3 |
| 102.5° | 201.4 | 93.6 | 89.0 | 70.7 | 52.4 |
| 105° | 207.1 | 102.7 | 98.8 | 83.3 | 67.8 |
| 107.5° | 208.1 | 116.1 | 112.4 | 98.0 | 83.6 |
| 110° | 206.6 | 123.5 | 120.3 | 107.2 | 94.2 |



TEST NUMBER: P934410

CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

| | 330° | 337.5° | 340° | 350° | 360° |
|--------|-------|--------|-------|-------|-------|
| 112.5° | 206.6 | 132.6 | 129.4 | 117.0 | 104.6 |
| 115° | 208.5 | 146.2 | 143.3 | 131.8 | 120.4 |
| 117.5° | 212.4 | 159.4 | 156.8 | 146.4 | 135.9 |
| 120° | 215.6 | 167.1 | 164.6 | 154.9 | 145.0 |
| 122.5° | 220.1 | 176.2 | 173.7 | 163.9 | 153.9 |
| 125° | 226.2 | 187.8 | 185.5 | 176.5 | 167.5 |
| 127.5° | 232.3 | 199.0 | 196.7 | 187.7 | 178.5 |
| 130° | 236.8 | 206.5 | 204.0 | 194.3 | 184.4 |
| 132.5° | 240.4 | 212.6 | 210.1 | 200.4 | 190.5 |
| 135° | 244.4 | 219.7 | 217.5 | 208.5 | 199.6 |
| 137.5° | 250.3 | 228.8 | 226.6 | 217.7 | 208.9 |
| 140° | 253.8 | 234.9 | 232.9 | 224.7 | 216.5 |
| 142.5° | 256.9 | 239.4 | 237.5 | 230.0 | 222.5 |
| 145° | 260.8 | 246.3 | 244.6 | 238.0 | 231.5 |
| 147.5° | 266.6 | 255.0 | 253.3 | 247.0 | 240.6 |
| 150° | 269.6 | 259.5 | 258.0 | 252.2 | 246.5 |
| 152.5° | 271.6 | 262.4 | 261.4 | 257.0 | 252.6 |
| 155° | 275.9 | 268.9 | 268.2 | 264.9 | 261.7 |
| 157.5° | 280.2 | 275.4 | 274.7 | 271.5 | 268.3 |
| 160° | 282.2 | 278.4 | 277.8 | 275.3 | 272.9 |
| 162.5° | 284.3 | 281.5 | 281.1 | 279.2 | 277.4 |
| 165° | 287.4 | 286.1 | 285.7 | 284.0 | 282.4 |
| 167.5° | 289.7 | 288.6 | 288.4 | 287.7 | 286.9 |
| 170° | 291.7 | 291.6 | 291.4 | 290.6 | 289.9 |
| 172.5° | 291.8 | 291.8 | 291.8 | 291.6 | 291.4 |
| 175° | 293.0 | 293.6 | 293.6 | 293.6 | 293.6 |
| 177.5° | 293.1 | 293.6 | 293.6 | 293.6 | 293.6 |
| 180° | 293.6 | 293.6 | 293.6 | 293.6 | 293.6 |



TEST NUMBER: P934410
 CATALOG NUMBER: SQ4-FA-050U-100D-830-1D-UNV-STD-W-4

CIE UGR TABLE:

| Reflectances: | | | | | | | | | | | |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling | | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H | Y=2H | 14.78 | 15.79 | 15.60 | 16.63 | 17.68 | 17.58 | 18.59 | 18.40 | 19.43 | 20.48 |
| | 3H | 15.27 | 16.17 | 16.10 | 17.03 | 18.10 | 18.92 | 19.83 | 19.76 | 20.68 | 21.76 |
| | 4H | 15.47 | 16.32 | 16.32 | 17.18 | 18.27 | 19.37 | 20.22 | 20.22 | 21.08 | 22.17 |
| | 6H | 15.59 | 16.38 | 16.46 | 17.25 | 18.35 | 19.65 | 20.44 | 20.52 | 21.31 | 22.41 |
| | 8H | 15.60 | 16.35 | 16.47 | 17.24 | 18.34 | 19.73 | 20.48 | 20.60 | 21.37 | 22.47 |
| | 12H | 15.58 | 16.29 | 16.45 | 17.17 | 18.30 | 19.77 | 20.48 | 20.65 | 21.36 | 22.49 |
| 4H | 2H | 15.82 | 16.68 | 16.68 | 17.54 | 18.63 | 18.01 | 18.86 | 18.86 | 19.72 | 20.81 |
| | 3H | 16.86 | 17.58 | 17.73 | 18.47 | 19.57 | 19.52 | 20.23 | 20.38 | 21.12 | 22.22 |
| | 4H | 17.15 | 17.80 | 18.03 | 18.69 | 19.81 | 20.04 | 20.69 | 20.92 | 21.58 | 22.71 |
| | 6H | 17.28 | 17.84 | 18.18 | 18.75 | 19.89 | 20.41 | 20.97 | 21.31 | 21.88 | 23.02 |
| | 8H | 17.29 | 17.81 | 18.19 | 18.72 | 19.87 | 20.52 | 21.04 | 21.41 | 21.95 | 23.09 |
| | 12H | 17.26 | 17.74 | 18.18 | 18.66 | 19.81 | 20.57 | 21.05 | 21.49 | 21.97 | 23.12 |
| 8H | 4H | 17.61 | 18.13 | 18.50 | 19.04 | 20.18 | 20.18 | 20.70 | 21.08 | 21.61 | 22.76 |
| | 6H | 17.87 | 18.31 | 18.80 | 19.26 | 20.40 | 20.62 | 21.05 | 21.54 | 22.00 | 23.14 |
| | 8H | 17.92 | 18.30 | 18.85 | 19.24 | 20.41 | 20.76 | 21.15 | 21.70 | 22.09 | 23.25 |
| | 12H | 17.91 | 18.25 | 18.85 | 19.18 | 20.39 | 20.86 | 21.20 | 21.80 | 22.14 | 23.35 |
| 12H | 4H | 17.62 | 18.09 | 18.54 | 19.02 | 20.17 | 20.15 | 20.62 | 21.07 | 21.55 | 22.70 |
| | 6H | 17.93 | 18.32 | 18.87 | 19.26 | 20.42 | 20.61 | 21.00 | 21.55 | 21.94 | 23.10 |
| | 8H | 18.01 | 18.35 | 18.95 | 19.28 | 20.49 | 20.78 | 21.12 | 21.72 | 22.05 | 23.26 |