

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: RSA

Report Number: P13478

Luminaire Tested: **ASAS301011E4TW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P13478  
Test Lab: PEACHTREE CITY  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: RSA  
Catalog Number: ASAS301011E4TW  
Description: RSA RECESSED LED SQUARE FIXTURE WITH ADJUSTABLE BRACKET AT 30 DEGREE, 3000K LED LIGHT ENGINE, 10 DEGREE REFLECTOR, WHITE TRIM WITH CLEAR GLASS LENS.  
Light Source: (1) PHILIPS FORTIMO SLM 3000K LED  
87182911 8708000  
Ballast/Driver: (1) PHILIPS ADVANCE ELECTRONIC DRIVER  
XR025C100V036XPM1

**Summary**

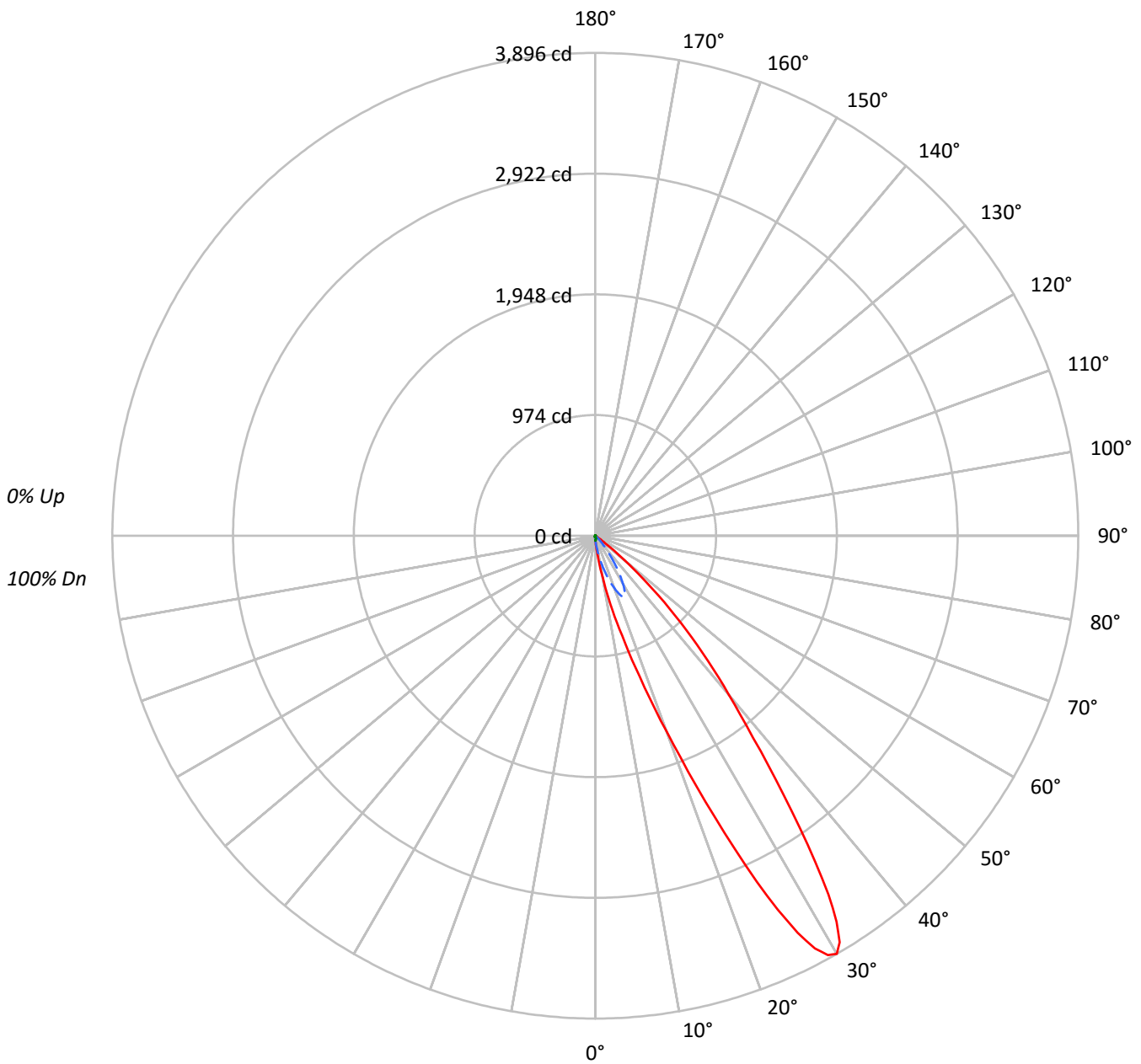
Lumens per Lamp: N/A  
Luminaire Lumens: 635.7 lumens  
Efficiency: N/A  
Efficacy: 30.3 lumens/watt  
Spacing Criteria (0/90/45): 2.57 / 0.62 / 1.39  
Luminous Opening: Rectangular (W 0.31' x L: 0.31' x H: 0')  
CIE Type: Direct

Input Watts (W): 21  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: HR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot



— 0°-180°    - - 45°-225°    - - - 90°-270°



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**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 | 50 | 30 | 10  | 0 |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |     |   |  |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |    | 100 |   |  |   |
| 1   | 112 | 109 | 106 | 104 | 110 | 107 | 104 | 102 | 103 | 101 | 99  | 99  | 97  | 96  | 96  | 94  | 93  | 91  |    |    |    |    | 91  |   |  |   |
| 2   | 105 | 100 | 95  | 91  | 103 | 98  | 93  | 90  | 95  | 91  | 88  | 91  | 88  | 86  | 89  | 86  | 84  | 82  |    |    |    |    | 82  |   |  |   |
| 3   | 99  | 91  | 85  | 80  | 96  | 89  | 84  | 79  | 87  | 82  | 78  | 84  | 80  | 77  | 82  | 78  | 76  | 74  |    |    |    |    | 74  |   |  |   |
| 4   | 92  | 83  | 76  | 71  | 90  | 82  | 75  | 70  | 79  | 74  | 70  | 77  | 73  | 69  | 75  | 71  | 68  | 66  |    |    |    |    | 66  |   |  |   |
| 5   | 86  | 76  | 68  | 63  | 84  | 74  | 68  | 63  | 73  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |    |    |    |    | 59  |   |  |   |
| 6   | 80  | 69  | 62  | 56  | 78  | 68  | 61  | 56  | 66  | 60  | 56  | 65  | 60  | 55  | 63  | 59  | 55  | 53  |    |    |    |    | 53  |   |  |   |
| 7   | 74  | 63  | 56  | 51  | 73  | 62  | 55  | 50  | 61  | 55  | 50  | 60  | 54  | 50  | 58  | 53  | 49  | 48  |    |    |    |    | 48  |   |  |   |
| 8   | 69  | 58  | 50  | 45  | 68  | 57  | 50  | 45  | 56  | 50  | 45  | 55  | 49  | 45  | 54  | 49  | 45  | 43  |    |    |    |    | 43  |   |  |   |
| 9   | 65  | 53  | 46  | 41  | 64  | 52  | 46  | 41  | 51  | 45  | 41  | 50  | 45  | 41  | 49  | 44  | 40  | 39  |    |    |    |    | 39  |   |  |   |
| 10  | 61  | 49  | 42  | 37  | 59  | 48  | 42  | 37  | 47  | 41  | 37  | 47  | 41  | 37  | 46  | 40  | 37  | 35  |    |    |    |    | 35  |   |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°     | 90°  | 180° |
|-----|--------|------|------|
| 0°  | 3748   | 3748 | 3748 |
| 5°  | 10732  | 4094 | 1549 |
| 10° | 38166  | 3470 | 560  |
| 15° | 95054  | 2739 | 342  |
| 20° | 197175 | 1877 | 0    |
| 25° | 374459 | 1581 | 243  |
| 30° | 495859 | 636  | 0    |
| 35° | 387255 | 538  | 0    |
| 40° | 240864 | 288  | 0    |
| 45° | 141849 | 0    | 0    |
| 50° | 51957  | 0    | 0    |
| 55° | 7495   | 0    | 0    |
| 60° | 882    | 0    | 0    |
| 65° | 261    | 522  | 522  |
| 70° | 0      | 0    | 0    |
| 75° | 0      | 0    | 0    |
| 80° | 1904   | 0    | 0    |
| 85° | 0      | 2529 | 1265 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 5.9    | 0.9       |
| 10°-20°   | 59.4   | 9.3       |
| 20°-30°   | 213.7  | 33.6      |
| 30°-40°   | 239.3  | 37.6      |
| 40°-50°   | 103.3  | 16.3      |
| 50°-60°   | 11.9   | 1.9       |
| 60°-70°   | 1.2    | 0.2       |
| 70°-80°   | 0.7    | 0.1       |
| 80°-90°   | 0.4    | 0.1       |
| 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°-30°    | 279.0  | 43.9      |
| 0°-40°    | 518.2  | 81.5      |
| 0°-60°    | 633.5  | 99.6      |
| 0°-90°    | 635.7  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 635.7  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45° | 90° | 135° | 180° | Flux |
|-----|------|-----|-----|------|------|------|
| 0°  | 34   | 34  | 34  | 34   | 34   |      |
| 5°  | 97   | 75  | 37  | 19   | 14   | 17   |
| 15° | 833  | 304 | 24  | 3    | 3    | 274  |
| 25° | 3079 | 545 | 13  | 1    | 2    | 1414 |
| 35° | 2878 | 269 | 4   | 0    | 0    | 1765 |
| 45° | 910  | 42  | 0   | 0    | 0    | 709  |
| 55° | 39   | 3   | 0   | 0    | 0    | 69   |
| 65° | 1    | 1   | 2   | 2    | 2    | 2    |
| 75° | 0    | 0   | 0   | 0    | 0    | 1    |
| 85° | 0    | 1   | 2   | 0    | 1    | 1    |
| 90° | 0    | 0   | 0   | 0    | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°   | 2.5° | 5°   | 7.5° | 10°  | 12.5° | 15°  | 17.5° | 20°  | 22.5° | 25°  |
|-------|------|------|------|------|------|-------|------|-------|------|-------|------|
| 0°    | 34   | 34   | 34   | 34   | 34   | 34    | 34   | 34    | 34   | 34    | 34   |
| 2.5°  | 54   | 53   | 53   | 52   | 52   | 53    | 53   | 53    | 53   | 52    | 51   |
| 5°    | 97   | 98   | 97   | 96   | 95   | 95    | 94   | 92    | 92   | 90    | 88   |
| 7.5°  | 183  | 186  | 186  | 185  | 180  | 179   | 172  | 169   | 165  | 161   | 154  |
| 10°   | 341  | 341  | 338  | 335  | 331  | 323   | 315  | 306   | 295  | 283   | 271  |
| 12.5° | 563  | 561  | 555  | 546  | 536  | 523   | 509  | 491   | 470  | 446   | 425  |
| 15°   | 833  | 828  | 817  | 804  | 787  | 764   | 740  | 711   | 679  | 644   | 609  |
| 17.5° | 1190 | 1192 | 1177 | 1153 | 1121 | 1083  | 1036 | 986   | 934  | 878   | 821  |
| 20°   | 1681 | 1671 | 1642 | 1597 | 1534 | 1466  | 1388 | 1310  | 1228 | 1147  | 1063 |
| 21°   | 1913 | 1897 | 1860 | 1799 | 1718 | 1633  | 1538 | 1442  | 1345 | 1250  | 1156 |
| 22°   | 2181 | 2156 | 2108 | 2029 | 1920 | 1809  | 1686 | 1568  | 1455 | 1346  | 1241 |
| 23°   | 2468 | 2442 | 2371 | 2259 | 2128 | 1983  | 1829 | 1688  | 1558 | 1433  | 1311 |
| 24°   | 2766 | 2762 | 2650 | 2511 | 2336 | 2149  | 1968 | 1798  | 1646 | 1500  | 1371 |
| 25°   | 3079 | 3038 | 2921 | 2743 | 2535 | 2305  | 2090 | 1893  | 1723 | 1564  | 1419 |
| 26°   | 3357 | 3315 | 3179 | 2965 | 2712 | 2448  | 2198 | 1973  | 1780 | 1606  | 1454 |
| 27°   | 3596 | 3548 | 3394 | 3152 | 2867 | 2565  | 2281 | 2031  | 1819 | 1635  | 1474 |
| 28°   | 3772 | 3720 | 3559 | 3297 | 2975 | 2646  | 2334 | 2065  | 1840 | 1647  | 1481 |
| 29°   | 3869 | 3818 | 3645 | 3368 | 3033 | 2680  | 2359 | 2075  | 1841 | 1642  | 1470 |
| 30°   | 3896 | 3834 | 3653 | 3365 | 3021 | 2671  | 2347 | 2059  | 1820 | 1620  | 1450 |
| 31°   | 3827 | 3764 | 3577 | 3286 | 2952 | 2607  | 2295 | 2015  | 1784 | 1586  | 1414 |
| 32°   | 3674 | 3612 | 3430 | 3153 | 2832 | 2512  | 2212 | 1954  | 1733 | 1541  | 1369 |
| 33°   | 3452 | 3391 | 3226 | 2968 | 2678 | 2384  | 2120 | 1877  | 1673 | 1486  | 1318 |
| 34°   | 3174 | 3124 | 2982 | 2754 | 2505 | 2244  | 2011 | 1794  | 1600 | 1424  | 1260 |
| 35°   | 2878 | 2837 | 2716 | 2541 | 2323 | 2103  | 1896 | 1701  | 1522 | 1356  | 1193 |
| 36°   | 2582 | 2550 | 2460 | 2319 | 2144 | 1965  | 1779 | 1604  | 1439 | 1276  | 1124 |
| 37°   | 2316 | 2289 | 2217 | 2111 | 1968 | 1820  | 1662 | 1504  | 1350 | 1194  | 1043 |
| 38°   | 2067 | 2054 | 1997 | 1916 | 1805 | 1680  | 1542 | 1404  | 1258 | 1111  | 965  |
| 39°   | 1858 | 1845 | 1804 | 1734 | 1646 | 1543  | 1422 | 1297  | 1165 | 1027  | 884  |
| 40°   | 1674 | 1669 | 1633 | 1575 | 1499 | 1410  | 1308 | 1194  | 1076 | 946   | 802  |
| 42.5° | 1278 | 1267 | 1247 | 1210 | 1162 | 1103  | 1034 | 946   | 848  | 726   | 601  |
| 45°   | 910  | 907  | 895  | 877  | 853  | 815   | 770  | 709   | 628  | 525   | 429  |
| 47.5° | 564  | 563  | 559  | 553  | 545  | 528   | 505  | 474   | 423  | 353   | 286  |
| 50°   | 303  | 303  | 301  | 300  | 273  | 288   | 279  | 265   | 245  | 214   | 171  |
| 52.5° | 115  | 118  | 114  | 114  | 117  | 116   | 114  | 112   | 107  | 94    | 79   |
| 55°   | 39   | 40   | 40   | 41   | 41   | 41    | 41   | 41    | 41   | 38    | 34   |
| 57.5° | 10   | 11   | 11   | 14   | 11   | 12    | 12   | 13    | 13   | 13    | 12   |
| 60°   | 4    | 4    | 5    | 4    | 4    | 4     | 3    | 4     | 4    | 4     | 4    |
| 62.5° | 4    | 7    | 4    | 1    | 1    | 2     | 1    | 1     | 1    | 4     | 2    |
| 65°   | 1    | 1    | 1    | 2    | 1    | 1     | 1    | 1     | 1    | 0     | 2    |
| 67.5° | 0    | 0    | 1    | 2    | 1    | 1     | 0    | 0     | 0    | 0     | 1    |
| 70°   | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 1     | 1    | 0     | 0    |
| 72.5° | 1    | 2    | 1    | 1    | 0    | 0     | 1    | 0     | 0    | 1     | 0    |
| 75°   | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 0    |
| 77.5° | 0    | 0    | 0    | 1    | 0    | 0     | 0    | 0     | 0    | 0     | 0    |
| 80°   | 3    | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 1     | 0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 0° | 2.5° | 5° | 7.5° | 10° | 12.5° | 15° | 17.5° | 20° | 22.5° | 25° |
|-------|----|------|----|------|-----|-------|-----|-------|-----|-------|-----|
| 82.5° | 0  | 0    | 0  | 0    | 0   | 0     | 0   | 1     | 0   | 0     | 1   |
| 85°   | 0  | 0    | 0  | 1    | 0   | 0     | 0   | 1     | 0   | 0     | 1   |
| 87.5° | 1  | 1    | 0  | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   |
| 90°   | 0  | 0    | 0  | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   |



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**CANDELA DISTRIBUTION (continued):**

|       | 30°  | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|------|-----|-------|-----|--------|------|--------|------|
| 0°    | 34   | 34  | 34    | 34  | 34     | 34   | 34     | 34   |
| 2.5°  | 51   | 49  | 44    | 40  | 35     | 30   | 27     | 27   |
| 5°    | 85   | 75  | 53    | 37  | 26     | 19   | 16     | 14   |
| 7.5°  | 144  | 106 | 62    | 34  | 19     | 11   | 10     | 7    |
| 10°   | 244  | 159 | 72    | 31  | 14     | 7    | 4      | 5    |
| 12.5° | 377  | 229 | 81    | 29  | 13     | 5    | 6      | 3    |
| 15°   | 531  | 304 | 89    | 24  | 8      | 3    | 3      | 3    |
| 17.5° | 708  | 382 | 93    | 19  | 6      | 2    | 1      | 1    |
| 20°   | 899  | 452 | 95    | 16  | 5      | 2    | 0      | 0    |
| 21°   | 971  | 477 | 95    | 15  | 4      | 2    | 0      | 0    |
| 22°   | 1036 | 502 | 93    | 14  | 3      | 1    | 1      | 1    |
| 23°   | 1092 | 523 | 89    | 13  | 3      | 1    | 2      | 0    |
| 24°   | 1131 | 538 | 88    | 12  | 2      | 0    | 0      | 1    |
| 25°   | 1165 | 545 | 82    | 13  | 2      | 1    | 0      | 2    |
| 26°   | 1185 | 542 | 79    | 10  | 3      | 1    | 1      | 1    |
| 27°   | 1190 | 527 | 72    | 9   | 1      | 2    | 1      | 0    |
| 28°   | 1187 | 504 | 66    | 8   | 2      | 1    | 0      | 0    |
| 29°   | 1175 | 479 | 61    | 7   | 1      | 1    | 0      | 0    |
| 30°   | 1150 | 442 | 57    | 5   | 0      | 0    | 0      | 0    |
| 31°   | 1117 | 409 | 47    | 5   | 1      | 0    | 0      | 0    |
| 32°   | 1073 | 377 | 42    | 3   | 1      | 0    | 3      | 0    |
| 33°   | 1018 | 342 | 36    | 5   | 1      | 0    | 0      | 0    |
| 34°   | 958  | 307 | 33    | 5   | 0      | 1    | 0      | 0    |
| 35°   | 890  | 269 | 27    | 4   | 1      | 0    | 2      | 0    |
| 36°   | 821  | 232 | 22    | 2   | 0      | 0    | 1      | 0    |
| 37°   | 747  | 196 | 19    | 0   | 0      | 0    | 0      | 0    |
| 38°   | 676  | 165 | 16    | 2   | 0      | 0    | 1      | 0    |
| 39°   | 607  | 136 | 13    | 1   | 0      | 0    | 0      | 0    |
| 40°   | 542  | 112 | 10    | 2   | 1      | 0    | 2      | 0    |
| 42.5° | 396  | 68  | 6     | 0   | 0      | 0    | 0      | 0    |
| 45°   | 268  | 42  | 4     | 0   | 0      | 0    | 0      | 0    |
| 47.5° | 161  | 22  | 2     | 0   | 0      | 0    | 0      | 0    |
| 50°   | 92   | 12  | 1     | 0   | 0      | 1    | 1      | 0    |
| 52.5° | 48   | 6   | 0     | 0   | 0      | 0    | 0      | 0    |
| 55°   | 23   | 3   | 0     | 0   | 0      | 0    | 0      | 0    |
| 57.5° | 9    | 2   | 0     | 2   | 1      | 0    | 1      | 2    |
| 60°   | 4    | 1   | 0     | 0   | 2      | 1    | 2      | 0    |
| 62.5° | 1    | 1   | 1     | 0   | 0      | 1    | 2      | 0    |
| 65°   | 1    | 1   | 0     | 2   | 1      | 2    | 2      | 2    |
| 67.5° | 0    | 0   | 1     | 3   | 1      | 1    | 2      | 1    |
| 70°   | 1    | 1   | 1     | 0   | 1      | 2    | 1      | 0    |
| 72.5° | 0    | 0   | 2     | 1   | 0      | 1    | 3      | 1    |
| 75°   | 0    | 0   | 0     | 0   | 0      | 0    | 1      | 0    |
| 77.5° | 1    | 0   | 0     | 3   | 1      | 0    | 2      | 0    |
| 80°   | 1    | 0   | 0     | 0   | 0      | 0    | 1      | 0    |





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**CANDELA DISTRIBUTION (continued):**

|       | 30° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-----|-----|-------|-----|--------|------|--------|------|
| 82.5° | 0   | 0   | 1     | 1   | 0      | 0    | 1      | 0    |
| 85°   | 1   | 1   | 1     | 2   | 1      | 0    | 1      | 1    |
| 87.5° | 0   | 1   | 0     | 0   | 0      | 0    | 0      | 0    |
| 90°   | 0   | 0   | 0     | 0   | 0      | 0    | 0      | 0    |

(END OF REPORT)