

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: P13461

Luminaire Tested: **ASAS302511E4TW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P13461  
Test Lab: PEACHTREE CITY  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: RSA  
Catalog Number: ASAS302511E4TW  
Description: RSA RECESSED LED SQUARE FIXTURE WITH 15 DEGREE FIXED BRACKET,  
3000K LED LIGHT ENGINE, 25 DEGREE REFLECTOR, WHITE TRIM WITH  
CLEAR LENS.  
Light Source: (1) PHILIPS FORTIMO SLM 3000K LED  
87182911 8708000  
Ballast/Driver: (1) PHILIPS ADVANCE ELECTRONIC DRIVER  
XR025C100V036XPM1

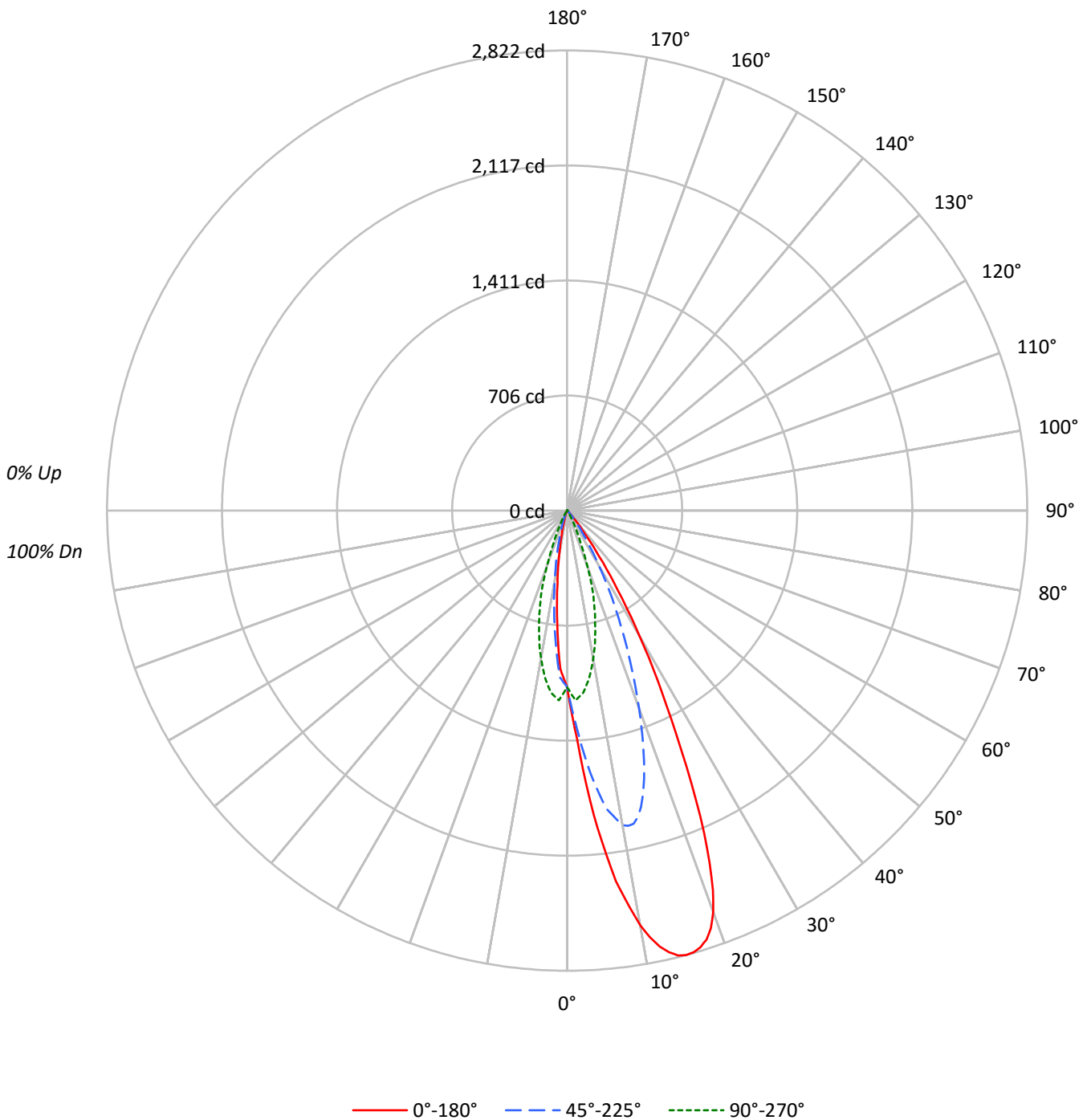
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 680.0 lumens  
Efficiency: N/A  
Efficacy: 32.2 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.57 / 0.68  
Luminous Opening: Rectangular (W 0.31' x L: 0.31' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.1  
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





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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 | 0  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |   |
| 1   | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 | 102 | 101 | 100 | 99  | 98  | 97  | 95  |    |    |    |   |
| 2   | 110 | 105 | 102 | 99  | 108 | 104 | 101 | 98  | 101 | 98  | 96  | 98  | 96  | 94  | 95  | 93  | 92  | 90  |    |    |    |   |
| 3   | 105 | 100 | 96  | 92  | 103 | 98  | 95  | 91  | 96  | 93  | 90  | 94  | 91  | 89  | 91  | 89  | 87  | 86  |    |    |    |   |
| 4   | 101 | 95  | 90  | 86  | 99  | 94  | 89  | 86  | 91  | 88  | 85  | 90  | 86  | 84  | 88  | 85  | 83  | 82  |    |    |    |   |
| 5   | 97  | 90  | 85  | 81  | 96  | 89  | 84  | 81  | 87  | 83  | 80  | 86  | 82  | 80  | 84  | 81  | 79  | 78  |    |    |    |   |
| 6   | 93  | 86  | 81  | 77  | 92  | 85  | 80  | 77  | 84  | 79  | 76  | 82  | 79  | 76  | 81  | 78  | 75  | 74  |    |    |    |   |
| 7   | 90  | 82  | 77  | 73  | 88  | 81  | 76  | 73  | 80  | 76  | 73  | 79  | 75  | 72  | 78  | 74  | 72  | 71  |    |    |    |   |
| 8   | 86  | 78  | 73  | 70  | 85  | 78  | 73  | 69  | 77  | 72  | 69  | 76  | 72  | 69  | 75  | 71  | 69  | 67  |    |    |    |   |
| 9   | 83  | 75  | 70  | 66  | 82  | 74  | 70  | 66  | 73  | 69  | 66  | 73  | 69  | 66  | 72  | 68  | 66  | 65  |    |    |    |   |
| 10  | 80  | 72  | 67  | 63  | 79  | 71  | 67  | 63  | 70  | 66  | 63  | 70  | 66  | 63  | 69  | 66  | 63  | 62  |    |    |    |   |

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

|     | 0°     | 90°    | 180°   |
|-----|--------|--------|--------|
| 0°  | 119261 | 119261 | 119261 |
| 5°  | 207235 | 124142 | 76565  |
| 10° | 289097 | 103081 | 31786  |
| 15° | 322020 | 75085  | 10156  |
| 20° | 307199 | 42344  | 3284   |
| 25° | 210519 | 16540  | 1095   |
| 30° | 113019 | 5091   | 382    |
| 35° | 45749  | 1346   | 0      |
| 40° | 12086  | 432    | 0      |
| 45° | 3273   | 468    | 0      |
| 50° | 686    | 0      | 0      |
| 55° | 192    | 192    | 192    |
| 60° | 0      | 0      | 0      |
| 65° | 261    | 0      | 0      |
| 70° | 0      | 0      | 322    |
| 75° | 0      | 0      | 0      |
| 80° | 1269   | 0      | 0      |
| 85° | 0      | 0      | 0      |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 114.7  | 16.9      |
| 10°-20°   | 282.6  | 41.6      |
| 20°-30°   | 212.9  | 31.3      |
| 30°-40°   | 61.4   | 9.0       |
| 40°-50°   | 6.4    | 0.9       |
| 50°-60°   | 0.9    | 0.1       |
| 60°-70°   | 0.5    | 0.1       |
| 70°-80°   | 0.2    | 0.0       |
| 80°-90°   | 0.5    | 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°    | 610.1  | 89.7      |
| 0°-40°    | 671.6  | 98.8      |
| 0°-60°    | 678.8  | 99.8      |
| 0°-90°    | 680.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 680.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1082 | 1082 | 1082 | 1082 | 1082 |      |
| 5°  | 1873 | 1611 | 1122 | 811  | 692  | 201  |
| 15° | 2822 | 1798 | 658  | 192  | 89   | 780  |
| 25° | 1731 | 779  | 136  | 23   | 9    | 784  |
| 35° | 340  | 153  | 10   | 1    | 0    | 237  |
| 45° | 21   | 13   | 3    | 1    | 0    | 21   |
| 55° | 1    | 2    | 1    | 1    | 1    | 2    |
| 65° | 1    | 0    | 0    | 0    | 0    | 0    |
| 75° | 0    | 0    | 0    | 0    | 0    | 1    |
| 85° | 0    | 0    | 0    | 0    | 0    | 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°    | 1082 | 1082 | 1082 | 1082 | 1082 | 1082  | 1082 | 1082  | 1082 | 1082  | 1082 |
| 2.5°  | 1400 | 1400 | 1395 | 1397 | 1395 | 1393  | 1389 | 1386  | 1387 | 1380  | 1379 |
| 5°    | 1873 | 1871 | 1867 | 1860 | 1857 | 1851  | 1840 | 1824  | 1816 | 1801  | 1787 |
| 7.5°  | 2291 | 2288 | 2281 | 2276 | 2271 | 2257  | 2242 | 2225  | 2203 | 2179  | 2153 |
| 10°   | 2583 | 2575 | 2570 | 2559 | 2544 | 2527  | 2504 | 2482  | 2450 | 2419  | 2382 |
| 11°   | 2666 | 2661 | 2654 | 2641 | 2623 | 2603  | 2581 | 2554  | 2522 | 2484  | 2443 |
| 12°   | 2733 | 2727 | 2718 | 2706 | 2689 | 2669  | 2641 | 2608  | 2577 | 2534  | 2491 |
| 13°   | 2779 | 2777 | 2767 | 2753 | 2734 | 2710  | 2681 | 2647  | 2611 | 2565  | 2514 |
| 14°   | 2812 | 2808 | 2798 | 2781 | 2761 | 2736  | 2708 | 2672  | 2627 | 2574  | 2520 |
| 15°   | 2822 | 2818 | 2809 | 2792 | 2773 | 2746  | 2716 | 2675  | 2624 | 2567  | 2504 |
| 16°   | 2817 | 2814 | 2801 | 2786 | 2765 | 2734  | 2698 | 2653  | 2597 | 2534  | 2465 |
| 17°   | 2799 | 2796 | 2782 | 2767 | 2740 | 2709  | 2665 | 2615  | 2553 | 2487  | 2407 |
| 18°   | 2766 | 2759 | 2750 | 2731 | 2699 | 2661  | 2613 | 2557  | 2492 | 2418  | 2327 |
| 19°   | 2708 | 2703 | 2687 | 2668 | 2632 | 2591  | 2538 | 2475  | 2404 | 2324  | 2226 |
| 20°   | 2619 | 2613 | 2596 | 2575 | 2539 | 2492  | 2439 | 2370  | 2295 | 2211  | 2109 |
| 21°   | 2494 | 2492 | 2472 | 2452 | 2419 | 2368  | 2313 | 2244  | 2166 | 2079  | 1979 |
| 22°   | 2332 | 2330 | 2324 | 2300 | 2262 | 2216  | 2163 | 2094  | 2015 | 1922  | 1833 |
| 23°   | 2151 | 2146 | 2135 | 2111 | 2082 | 2046  | 1993 | 1929  | 1847 | 1770  | 1685 |
| 24°   | 1943 | 1935 | 1930 | 1910 | 1886 | 1855  | 1806 | 1748  | 1682 | 1603  | 1529 |
| 25°   | 1731 | 1726 | 1720 | 1704 | 1685 | 1658  | 1618 | 1569  | 1511 | 1445  | 1381 |
| 26°   | 1525 | 1521 | 1523 | 1510 | 1493 | 1468  | 1433 | 1393  | 1350 | 1294  | 1237 |
| 27°   | 1346 | 1343 | 1338 | 1336 | 1320 | 1299  | 1270 | 1239  | 1200 | 1152  | 1103 |
| 28°   | 1185 | 1181 | 1178 | 1174 | 1160 | 1146  | 1121 | 1092  | 1065 | 1025  | 984  |
| 29°   | 1038 | 1033 | 1031 | 1024 | 1014 | 1001  | 983  | 961   | 932  | 904   | 867  |
| 30°   | 888  | 893  | 890  | 887  | 883  | 870   | 857  | 839   | 817  | 792   | 757  |
| 32.5° | 574  | 574  | 571  | 570  | 568  | 566   | 565  | 559   | 545  | 527   | 502  |
| 35°   | 340  | 331  | 330  | 329  | 330  | 331   | 328  | 329   | 328  | 313   | 297  |
| 37.5° | 169  | 168  | 168  | 168  | 169  | 168   | 171  | 171   | 171  | 164   | 159  |
| 40°   | 84   | 83   | 84   | 85   | 83   | 86    | 87   | 87    | 86   | 85    | 81   |
| 42.5° | 39   | 41   | 40   | 41   | 41   | 42    | 42   | 43    | 43   | 42    | 41   |
| 45°   | 21   | 22   | 21   | 22   | 22   | 22    | 22   | 23    | 24   | 22    | 21   |
| 47.5° | 8    | 7    | 7    | 8    | 9    | 10    | 9    | 9     | 8    | 8     | 8    |
| 50°   | 4    | 5    | 4    | 3    | 4    | 4     | 4    | 4     | 5    | 6     | 4    |
| 52.5° | 2    | 1    | 1    | 2    | 3    | 1     | 1    | 3     | 1    | 2     | 2    |
| 55°   | 1    | 2    | 2    | 1    | 2    | 2     | 1    | 1     | 1    | 2     | 1    |
| 57.5° | 6    | 0    | 1    | 0    | 0    | 2     | 1    | 0     | 0    | 1     | 2    |
| 60°   | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 0    |
| 62.5° | 1    | 1    | 0    | 0    | 1    | 0     | 0    | 0     | 0    | 0     | 0    |
| 65°   | 1    | 1    | 1    | 0    | 0    | 0     | 0    | 0     | 1    | 0     | 1    |
| 67.5° | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 0    |
| 70°   | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 0    |
| 72.5° | 0    | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 0    |
| 75°   | 0    | 0    | 1    | 0    | 0    | 0     | 1    | 0     | 0    | 0     | 0    |
| 77.5° | 1    | 2    | 0    | 1    | 1    | 1     | 1    | 1     | 1    | 1     | 1    |
| 80°   | 2    | 0    | 0    | 1    | 0    | 1     | 0    | 0     | 0    | 0     | 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° | 1  | 1    | 1  | 0    | 1   | 0     | 0   | 0     | 1   | 1     | 1   |
| 85°   | 0  | 0    | 1  | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   |
| 87.5° | 1  | 1    | 0  | 0    | 1   | 0     | 1   | 1     | 0   | 1     | 0   |
| 90°   | 0  | 0    | 0  | 0    | 0   | 0     | 0   | 0     | 0   | 0     | 0   |



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**CANDELA DISTRIBUTION (continued):**

|       | 27.5° | 30°  | 32.5° | 45°  | 67.5° | 90°  | 112.5° | 135° | 157.5° | 180° |
|-------|-------|------|-------|------|-------|------|--------|------|--------|------|
| 0°    | 1082  | 1082 | 1082  | 1082 | 1082  | 1082 | 1082   | 1082 | 1082   | 1082 |
| 2.5°  | 1376  | 1368 | 1361  | 1330 | 1253  | 1165 | 1089   | 1023 | 986    | 970  |
| 5°    | 1768  | 1748 | 1729  | 1611 | 1362  | 1122 | 939    | 811  | 723    | 692  |
| 7.5°  | 2119  | 2086 | 2051  | 1843 | 1409  | 1037 | 788    | 613  | 495    | 458  |
| 10°   | 2339  | 2295 | 2248  | 1959 | 1361  | 921  | 643    | 441  | 319    | 284  |
| 11°   | 2399  | 2347 | 2295  | 1969 | 1317  | 875  | 588    | 376  | 263    | 229  |
| 12°   | 2439  | 2382 | 2326  | 1963 | 1266  | 821  | 535    | 326  | 215    | 186  |
| 13°   | 2457  | 2394 | 2328  | 1928 | 1204  | 764  | 480    | 273  | 172    | 146  |
| 14°   | 2453  | 2383 | 2312  | 1873 | 1132  | 710  | 432    | 228  | 136    | 112  |
| 15°   | 2433  | 2352 | 2275  | 1798 | 1058  | 658  | 388    | 192  | 111    | 89   |
| 16°   | 2385  | 2301 | 2218  | 1711 | 978   | 603  | 341    | 157  | 86     | 67   |
| 17°   | 2319  | 2228 | 2136  | 1614 | 901   | 550  | 298    | 133  | 71     | 53   |
| 18°   | 2234  | 2140 | 2039  | 1506 | 825   | 490  | 256    | 111  | 55     | 42   |
| 19°   | 2132  | 2027 | 1925  | 1396 | 748   | 428  | 218    | 90   | 43     | 34   |
| 20°   | 2012  | 1907 | 1804  | 1286 | 669   | 361  | 182    | 71   | 33     | 28   |
| 21°   | 1881  | 1778 | 1676  | 1175 | 585   | 301  | 150    | 58   | 26     | 19   |
| 22°   | 1743  | 1646 | 1553  | 1070 | 506   | 251  | 121    | 46   | 20     | 14   |
| 23°   | 1599  | 1508 | 1419  | 970  | 431   | 205  | 97     | 38   | 15     | 10   |
| 24°   | 1454  | 1371 | 1291  | 872  | 364   | 167  | 80     | 29   | 11     | 8    |
| 25°   | 1310  | 1238 | 1166  | 779  | 303   | 136  | 66     | 23   | 9      | 9    |
| 26°   | 1176  | 1112 | 1044  | 693  | 251   | 107  | 51     | 18   | 6      | 4    |
| 27°   | 1049  | 992  | 932   | 611  | 207   | 85   | 42     | 15   | 5      | 4    |
| 28°   | 933   | 883  | 825   | 536  | 167   | 68   | 32     | 16   | 5      | 3    |
| 29°   | 821   | 774  | 724   | 459  | 132   | 52   | 25     | 10   | 3      | 2    |
| 30°   | 718   | 674  | 633   | 394  | 107   | 40   | 19     | 6    | 5      | 3    |
| 32.5° | 472   | 444  | 420   | 249  | 60    | 21   | 11     | 3    | 1      | 0    |
| 35°   | 283   | 268  | 250   | 153  | 33    | 10   | 6      | 1    | 0      | 0    |
| 37.5° | 153   | 146  | 135   | 86   | 18    | 4    | 2      | 1    | 0      | 0    |
| 40°   | 78    | 76   | 73    | 48   | 10    | 3    | 1      | 1    | 2      | 0    |
| 42.5° | 40    | 38   | 36    | 24   | 5     | 1    | 0      | 0    | 0      | 0    |
| 45°   | 21    | 20   | 19    | 13   | 4     | 3    | 1      | 1    | 0      | 0    |
| 47.5° | 8     | 7    | 6     | 5    | 2     | 0    | 0      | 0    | 0      | 1    |
| 50°   | 5     | 3    | 4     | 4    | 1     | 0    | 1      | 1    | 1      | 0    |
| 52.5° | 3     | 3    | 2     | 1    | 0     | 0    | 0      | 3    | 1      | 0    |
| 55°   | 1     | 2    | 2     | 2    | 1     | 1    | 1      | 1    | 1      | 1    |
| 57.5° | 0     | 2    | 1     | 2    | 0     | 0    | 3      | 0    | 0      | 0    |
| 60°   | 0     | 0    | 0     | 0    | 0     | 0    | 0      | 0    | 0      | 0    |
| 62.5° | 0     | 2    | 4     | 3    | 0     | 0    | 0      | 4    | 3      | 0    |
| 65°   | 0     | 0    | 0     | 0    | 0     | 0    | 2      | 0    | 0      | 0    |
| 67.5° | 0     | 0    | 2     | 1    | 0     | 0    | 0      | 0    | 0      | 0    |
| 70°   | 0     | 0    | 0     | 0    | 0     | 0    | 0      | 0    | 1      | 1    |
| 72.5° | 0     | 0    | 0     | 0    | 0     | 0    | 0      | 0    | 0      | 0    |
| 75°   | 0     | 0    | 0     | 0    | 0     | 0    | 1      | 0    | 0      | 0    |
| 77.5° | 1     | 1    | 0     | 0    | 1     | 1    | 1      | 0    | 0      | 0    |
| 80°   | 0     | 2    | 0     | 0    | 0     | 0    | 0      | 0    | 0      | 0    |





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**CANDELA DISTRIBUTION (continued):**

|       | 27.5° | 30° | 32.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-------|-----|-------|-----|-------|-----|--------|------|--------|------|
| 82.5° | 1     | 1   | 1     | 2   | 1     | 1   | 1      | 1    | 1      | 0    |
| 85°   | 0     | 2   | 1     | 0   | 0     | 0   | 0      | 0    | 0      | 0    |
| 87.5° | 0     | 1   | 0     | 1   | 0     | 1   | 1      | 0    | 1      | 1    |
| 90°   | 0     | 0   | 0     | 0   | 0     | 0   | 0      | 0    | 0      | 0    |

(END OF REPORT)