

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: SURE-LITES

Report Number: 08544

Luminaire Tested: **SURE LITES 029-134**

Issue Date: 03/03/2020

**Test Information**

Test Method: LM-79-08  
Report Number: 08544  
Test Lab: LUMINAIRE TESTING LABORATORY, INC.  
Issue Date: 03/03/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: SURE-LITES  
Catalog Number: SURE LITES 029-134  
Description: PAR36 HALOGEN SEALED BEAM LAMP  
Light Source: ONE VBU 37.5 WATT PAR36 SEALED BEAM HALOGEN LAMP RATED AT 825 LUMENS.  
GE H7616  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 825 (1 lamp)  
Luminaire Lumens: 828.3 lumens  
Efficiency: 100.4%  
Efficacy: 17.4 lumens/watt  
Spacing Criteria (0/90/45): 0.09 / 0.05 / 0.06  
Luminous Opening: Vertical Cylinder (Dia: 0.38' x H: 0.06')  
CIE Type: Direct

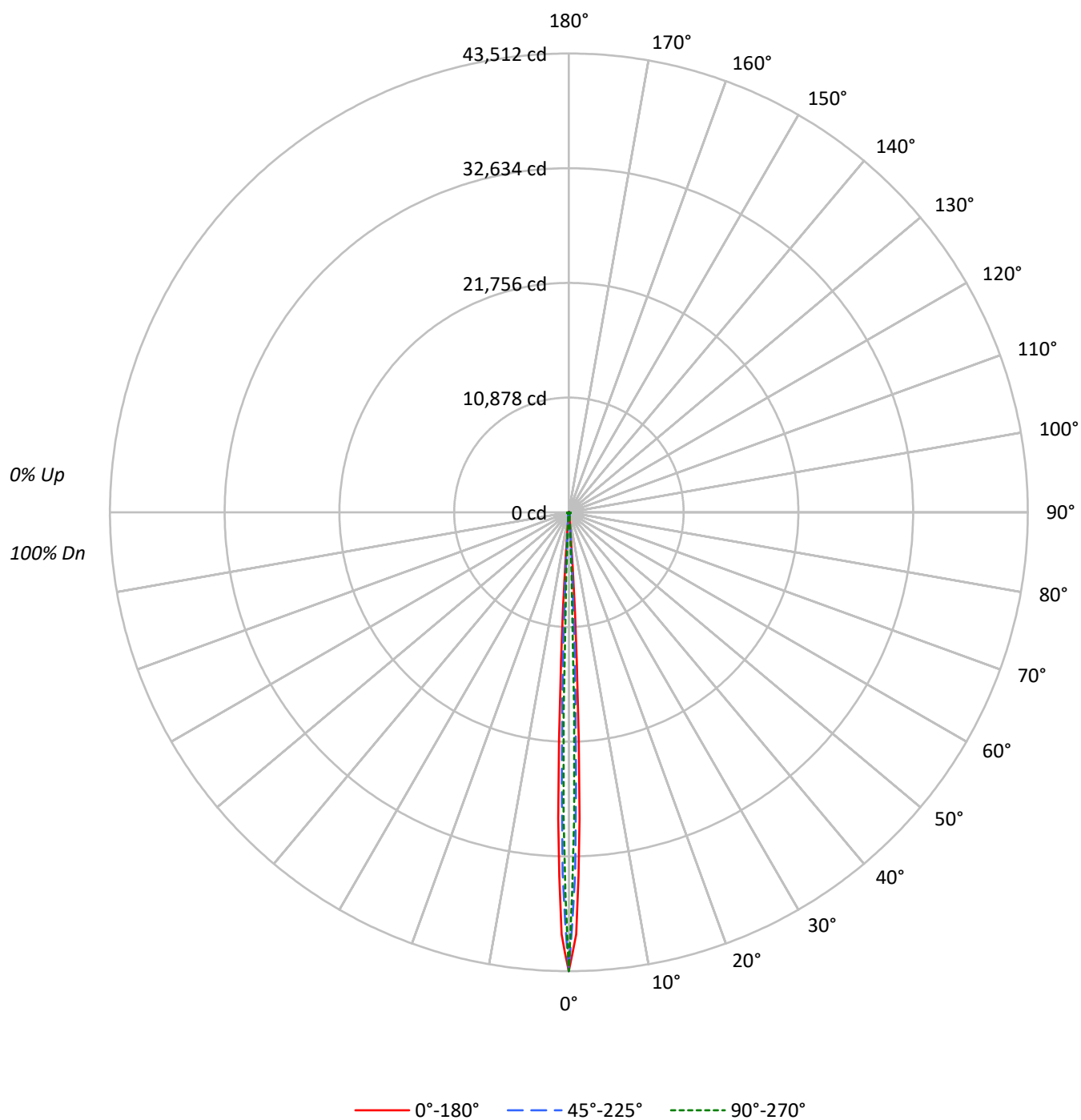
Input Watts (W): 47.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: 08544

CATALOG NUMBER: SURE LITES 029-134

### Luminous Intensity Polar Plot





TEST NUMBER: 08544

CATALOG NUMBER: SURE LITES 029-134

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|--|-----|-----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     |  | 20  |     |     |  |     | 20  |     |  |     |     | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     |  | 50  |     |     |  |     | 30  |     |  |     |     | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
| 0   | 120 | 120 | 120 | 120 | 117 | 117 | 117 | 117 |  | 112 | 112 | 112 |  | 107 | 107 | 107 |  | 102 | 102 | 102 |
| 1   | 110 | 105 | 101 | 97  | 107 | 103 | 99  | 96  |  | 99  | 96  | 93  |  | 95  | 92  | 90  |  | 91  | 89  | 87  |
| 2   | 101 | 93  | 87  | 81  | 98  | 91  | 85  | 80  |  | 88  | 83  | 79  |  | 85  | 80  | 77  |  | 82  | 78  | 75  |
| 3   | 94  | 84  | 76  | 71  | 91  | 82  | 75  | 70  |  | 79  | 74  | 69  |  | 77  | 72  | 68  |  | 74  | 70  | 66  |
| 4   | 87  | 77  | 69  | 63  | 85  | 75  | 68  | 63  |  | 73  | 67  | 62  |  | 71  | 65  | 61  |  | 69  | 64  | 60  |
| 5   | 82  | 71  | 63  | 57  | 80  | 70  | 63  | 57  |  | 68  | 62  | 57  |  | 66  | 60  | 56  |  | 64  | 59  | 55  |
| 6   | 78  | 67  | 59  | 53  | 76  | 66  | 58  | 53  |  | 64  | 58  | 53  |  | 62  | 57  | 52  |  | 61  | 56  | 52  |
| 7   | 74  | 63  | 55  | 50  | 73  | 62  | 55  | 50  |  | 61  | 54  | 50  |  | 59  | 54  | 49  |  | 58  | 53  | 49  |
| 8   | 71  | 60  | 53  | 48  | 70  | 59  | 52  | 48  |  | 58  | 52  | 47  |  | 57  | 51  | 47  |  | 56  | 51  | 47  |
| 9   | 68  | 57  | 50  | 46  | 67  | 57  | 50  | 46  |  | 56  | 50  | 45  |  | 55  | 49  | 45  |  | 54  | 49  | 45  |
| 10  | 66  | 55  | 48  | 44  | 65  | 54  | 48  | 44  |  | 54  | 48  | 44  |  | 53  | 47  | 44  |  | 52  | 47  | 44  |

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

|     | 0°      | 45°     | 90°     |
|-----|---------|---------|---------|
| 0°  | 4240596 | 4240596 | 4240596 |
| 5°  | 150026  | 89036   | 74629   |
| 10° | 24420   | 27759   | 31956   |
| 15° | 11838   | 17662   | 16898   |
| 20° | 13575   | 11938   | 11072   |
| 25° | 9491    | 8219    | 6067    |
| 30° | 9724    | 5714    | 7118    |
| 35° | 11912   | 10048   | 10048   |
| 40° | 15227   | 15227   | 13391   |
| 45° | 14099   | 13075   | 15008   |
| 50° | 10649   | 15006   | 15006   |
| 55° | 13822   | 18386   | 17212   |
| 60° | 8837    | 16961   | 16391   |
| 65° | 5547    | 18226   | 16799   |
| 70° | 4680    | 17460   | 20700   |
| 75° | 9246    | 24165   | 26056   |
| 80° | 8915    | 22414   | 20122   |
| 85° | 0       | 2938    | 5876    |



TEST NUMBER: 08544

CATALOG NUMBER: SURE LITES 029-134

**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

| Zone      | Lumens | % Fixture | % Lamp |      | 0°    | 22.5° | 45°   | 67.5° | 90°   | Flux |
|-----------|--------|-----------|--------|------|-------|-------|-------|-------|-------|------|
| 0°-10°    | 256.8  | 31.0      | 31.1   | 0°   | 43512 | 43512 | 43512 | 43512 | 43512 |      |
| 10°-20°   | 49.5   | 6.0       | 6.0    | 5°   | 1562  | 1439  | 927   | 746   | 777   | 363  |
| 20°-30°   | 45.0   | 5.4       | 5.5    | 15°  | 124   | 154   | 185   | 194   | 177   | 42   |
| 30°-40°   | 69.8   | 8.4       | 8.5    | 25°  | 97    | 106   | 84    | 79    | 62    | 51   |
| 40°-50°   | 99.5   | 12.0      | 12.1   | 35°  | 115   | 97    | 97    | 93    | 97    | 77   |
| 50°-60°   | 101.3  | 12.2      | 12.3   | 45°  | 124   | 119   | 115   | 124   | 132   | 93   |
| 60°-70°   | 97.3   | 11.7      | 11.8   | 55°  | 106   | 115   | 141   | 141   | 132   | 73   |
| 70°-80°   | 95.9   | 11.6      | 11.6   | 65°  | 35    | 75    | 115   | 119   | 106   | 43   |
| 80°-90°   | 13.2   | 1.6       | 1.6    | 75°  | 44    | 66    | 115   | 132   | 124   | 38   |
| 90°-100°  | 0.0    | 0.0       | 0.0    | 85°  | 0     | 9     | 9     | 9     | 18    | 6    |
| 100°-110° | 0.0    | 0.0       | 0.0    | 90°  | 0     | 0     | 0     | 0     | 0     | 0    |
| 110°-120° | 0.0    | 0.0       | 0.0    | 95°  | 0     | 0     | 0     | 0     | 0     | 0    |
| 120°-130° | 0.0    | 0.0       | 0.0    | 105° | 0     | 0     | 0     | 0     | 0     | 0    |
| 130°-140° | 0.0    | 0.0       | 0.0    | 115° | 0     | 0     | 0     | 0     | 0     | 0    |
| 140°-150° | 0.0    | 0.0       | 0.0    | 125° | 0     | 0     | 0     | 0     | 0     | 0    |
| 150°-160° | 0.0    | 0.0       | 0.0    | 135° | 0     | 0     | 0     | 0     | 0     | 0    |
| 160°-170° | 0.0    | 0.0       | 0.0    | 145° | 0     | 0     | 0     | 0     | 0     | 0    |
| 170°-180° | 0.0    | 0.0       | 0.0    | 155° | 0     | 0     | 0     | 0     | 0     | 0    |
| 0°-30°    | 351.3  | 42.4      | 42.6   | 165° | 0     | 0     | 0     | 0     | 0     | 0    |
| 0°-40°    | 421.1  | 50.8      | 51.0   | 175° | 0     | 0     | 0     | 0     | 0     | 0    |
| 0°-60°    | 622.0  | 75.1      | 75.4   | 180° | 0     | 0     | 0     | 0     | 0     | 0    |
| 0°-90°    | 828.3  | 100.0     | 100.4  |      |       |       |       |       |       |      |
| 90°-120°  | 0.0    | 0.0       | 0.0    |      |       |       |       |       |       |      |
| 90°-150°  | 0.0    | 0.0       | 0.0    |      |       |       |       |       |       |      |
| 90°-180°  | 0.0    | 0.0       | 0.0    |      |       |       |       |       |       |      |
| 0°-180°   | 828.3  | 100.0     | 100.4  |      |       |       |       |       |       |      |



TEST NUMBER: 08544

CATALOG NUMBER: SURE LITES 029-134

**CANDELA DISTRIBUTION (FULL):**

|     | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-----|-------|-------|-------|-------|-------|
| 0°  | 43512 | 43512 | 43512 | 43512 | 43512 |
| 1°  | 40008 | 37065 | 34245 | 29854 | 28879 |
| 2°  | 29055 | 25040 | 17498 | 11200 | 8950  |
| 3°  | 14025 | 11955 | 6434  | 3001  | 2515  |
| 4°  | 4607  | 4263  | 1915  | 1333  | 1156  |
| 5°  | 1562  | 1439  | 927   | 746   | 777   |
| 6°  | 662   | 715   | 583   | 587   | 609   |
| 7°  | 415   | 521   | 494   | 534   | 521   |
| 8°  | 291   | 406   | 397   | 485   | 450   |
| 9°  | 238   | 304   | 331   | 424   | 388   |
| 10° | 256   | 256   | 291   | 344   | 335   |
| 11° | 212   | 234   | 247   | 260   | 238   |
| 12° | 203   | 234   | 252   | 265   | 238   |
| 13° | 194   | 203   | 252   | 256   | 256   |
| 14° | 132   | 159   | 203   | 216   | 221   |
| 15° | 124   | 154   | 185   | 194   | 177   |
| 16° | 115   | 141   | 168   | 163   | 150   |
| 17° | 115   | 150   | 159   | 141   | 132   |
| 18° | 124   | 141   | 132   | 132   | 115   |
| 19° | 124   | 132   | 124   | 124   | 115   |
| 20° | 141   | 119   | 124   | 115   | 115   |
| 21° | 132   | 132   | 119   | 101   | 88    |
| 22° | 97    | 110   | 88    | 71    | 62    |
| 23° | 88    | 106   | 93    | 66    | 71    |
| 24° | 106   | 124   | 93    | 101   | 88    |
| 25° | 97    | 106   | 84    | 79    | 62    |
| 26° | 124   | 128   | 97    | 84    | 97    |
| 27° | 106   | 106   | 75    | 66    | 79    |
| 28° | 115   | 124   | 97    | 79    | 97    |
| 29° | 124   | 124   | 101   | 97    | 97    |
| 30° | 97    | 75    | 57    | 71    | 71    |
| 31° | 124   | 110   | 97    | 101   | 88    |
| 32° | 106   | 93    | 79    | 79    | 79    |
| 33° | 124   | 110   | 97    | 115   | 79    |
| 34° | 132   | 115   | 106   | 106   | 106   |
| 35° | 115   | 97    | 97    | 93    | 97    |
| 36° | 115   | 110   | 110   | 119   | 97    |
| 37° | 132   | 132   | 137   | 128   | 150   |
| 38° | 115   | 128   | 132   | 124   | 106   |
| 39° | 132   | 124   | 128   | 106   | 124   |
| 40° | 141   | 141   | 141   | 146   | 124   |
| 41° | 124   | 128   | 124   | 119   | 106   |
| 42° | 124   | 119   | 124   | 119   | 132   |
| 43° | 115   | 124   | 128   | 124   | 124   |
| 44° | 124   | 124   | 132   | 124   | 115   |



TEST NUMBER: 08544

CATALOG NUMBER: SURE LITES 029-134

**CANDELA DISTRIBUTION (continued):**

|     | 0°  | 22.5° | 45° | 67.5° | 90° |
|-----|-----|-------|-----|-------|-----|
| 45° | 124 | 119   | 115 | 124   | 132 |
| 46° | 124 | 137   | 137 | 150   | 132 |
| 47° | 124 | 132   | 146 | 137   | 132 |
| 48° | 124 | 124   | 150 | 146   | 132 |
| 49° | 106 | 132   | 146 | 132   | 132 |
| 50° | 88  | 106   | 124 | 119   | 124 |
| 51° | 97  | 128   | 132 | 146   | 141 |
| 52° | 97  | 119   | 137 | 132   | 141 |
| 53° | 88  | 101   | 119 | 119   | 124 |
| 54° | 71  | 101   | 115 | 119   | 124 |
| 55° | 106 | 115   | 141 | 141   | 132 |
| 56° | 62  | 84    | 110 | 93    | 97  |
| 57° | 88  | 115   | 141 | 141   | 141 |
| 58° | 71  | 79    | 128 | 119   | 106 |
| 59° | 62  | 62    | 119 | 124   | 115 |
| 60° | 62  | 66    | 119 | 106   | 115 |
| 61° | 71  | 84    | 141 | 146   | 141 |
| 62° | 62  | 88    | 128 | 137   | 132 |
| 63° | 62  | 84    | 137 | 110   | 132 |
| 64° | 44  | 75    | 106 | 93    | 124 |
| 65° | 35  | 75    | 115 | 119   | 106 |
| 66° | 44  | 97    | 132 | 128   | 141 |
| 67° | 18  | 66    | 106 | 124   | 115 |
| 68° | 35  | 66    | 97  | 110   | 115 |
| 69° | 26  | 57    | 101 | 106   | 106 |
| 70° | 26  | 44    | 97  | 101   | 115 |
| 71° | 26  | 44    | 97  | 106   | 124 |
| 72° | 26  | 40    | 97  | 106   | 124 |
| 73° | 53  | 66    | 119 | 132   | 132 |
| 74° | 44  | 71    | 128 | 128   | 132 |
| 75° | 44  | 66    | 115 | 132   | 124 |
| 76° | 26  | 62    | 106 | 124   | 124 |
| 77° | 44  | 79    | 106 | 124   | 141 |
| 78° | 44  | 62    | 110 | 132   | 124 |
| 79° | 18  | 26    | 119 | 119   | 79  |
| 80° | 35  | 35    | 88  | 97    | 79  |
| 81° | 26  | 35    | 40  | 53    | 35  |
| 82° | 9   | 13    | 18  | 18    | 9   |
| 83° | 0   | 18    | 4   | 13    | 18  |
| 84° | 0   | 4     | 4   | 9     | 18  |
| 85° | 0   | 9     | 9   | 9     | 18  |
| 86° | 0   | 4     | 4   | 4     | 18  |
| 87° | 0   | 0     | 0   | 4     | 0   |
| 88° | 0   | 0     | 0   | 0     | 0   |
| 89° | 0   | 0     | 0   | 0     | 0   |



TEST NUMBER: 08544

CATALOG NUMBER: SURE LITES 029-134

**CANDELA DISTRIBUTION (continued):**

|      | 0° | 22.5° | 45° | 67.5° | 90° |
|------|----|-------|-----|-------|-----|
| 90°  | 0  | 0     | 0   | 0     | 0   |
| 91°  | 0  | 0     | 0   | 0     | 0   |
| 92°  | 0  | 0     | 0   | 0     | 0   |
| 93°  | 0  | 0     | 0   | 0     | 0   |
| 94°  | 0  | 0     | 0   | 0     | 0   |
| 95°  | 0  | 0     | 0   | 0     | 0   |
| 96°  | 0  | 0     | 0   | 0     | 0   |
| 97°  | 0  | 0     | 0   | 0     | 0   |
| 98°  | 0  | 0     | 0   | 0     | 0   |
| 99°  | 0  | 0     | 0   | 0     | 0   |
| 100° | 0  | 0     | 0   | 0     | 0   |
| 101° | 0  | 0     | 0   | 0     | 0   |
| 102° | 0  | 0     | 0   | 0     | 0   |
| 103° | 0  | 0     | 0   | 0     | 0   |
| 104° | 0  | 0     | 0   | 0     | 0   |
| 105° | 0  | 0     | 0   | 0     | 0   |
| 106° | 0  | 0     | 0   | 0     | 0   |
| 107° | 0  | 0     | 0   | 0     | 0   |
| 108° | 0  | 0     | 0   | 0     | 0   |
| 109° | 0  | 0     | 0   | 0     | 0   |
| 110° | 0  | 0     | 0   | 0     | 0   |
| 111° | 0  | 0     | 0   | 0     | 0   |
| 112° | 0  | 0     | 0   | 0     | 0   |
| 113° | 0  | 0     | 0   | 0     | 0   |
| 114° | 0  | 0     | 0   | 0     | 0   |
| 115° | 0  | 0     | 0   | 0     | 0   |
| 116° | 0  | 0     | 0   | 0     | 0   |
| 117° | 0  | 0     | 0   | 0     | 0   |
| 118° | 0  | 0     | 0   | 0     | 0   |
| 119° | 0  | 0     | 0   | 0     | 0   |
| 120° | 0  | 0     | 0   | 0     | 0   |
| 121° | 0  | 0     | 0   | 0     | 0   |
| 122° | 0  | 0     | 0   | 0     | 0   |
| 123° | 0  | 0     | 0   | 0     | 0   |
| 124° | 0  | 0     | 0   | 0     | 0   |
| 125° | 0  | 0     | 0   | 0     | 0   |
| 126° | 0  | 0     | 0   | 0     | 0   |
| 127° | 0  | 0     | 0   | 0     | 0   |
| 128° | 0  | 0     | 0   | 0     | 0   |
| 129° | 0  | 0     | 0   | 0     | 0   |
| 130° | 0  | 0     | 0   | 0     | 0   |
| 131° | 0  | 0     | 0   | 0     | 0   |
| 132° | 0  | 0     | 0   | 0     | 0   |
| 133° | 0  | 0     | 0   | 0     | 0   |
| 134° | 0  | 0     | 0   | 0     | 0   |





TEST NUMBER: 08544

CATALOG NUMBER: SURE LITES 029-134

**CANDELA DISTRIBUTION (continued):**

|      | 0° | 22.5° | 45° | 67.5° | 90° |
|------|----|-------|-----|-------|-----|
| 135° | 0  | 0     | 0   | 0     | 0   |
| 136° | 0  | 0     | 0   | 0     | 0   |
| 137° | 0  | 0     | 0   | 0     | 0   |
| 138° | 0  | 0     | 0   | 0     | 0   |
| 139° | 0  | 0     | 0   | 0     | 0   |
| 140° | 0  | 0     | 0   | 0     | 0   |
| 141° | 0  | 0     | 0   | 0     | 0   |
| 142° | 0  | 0     | 0   | 0     | 0   |
| 143° | 0  | 0     | 0   | 0     | 0   |
| 144° | 0  | 0     | 0   | 0     | 0   |
| 145° | 0  | 0     | 0   | 0     | 0   |
| 146° | 0  | 0     | 0   | 0     | 0   |
| 147° | 0  | 0     | 0   | 0     | 0   |
| 148° | 0  | 0     | 0   | 0     | 0   |
| 149° | 0  | 0     | 0   | 0     | 0   |
| 150° | 0  | 0     | 0   | 0     | 0   |
| 151° | 0  | 0     | 0   | 0     | 0   |
| 152° | 0  | 0     | 0   | 0     | 0   |
| 153° | 0  | 0     | 0   | 0     | 0   |
| 154° | 0  | 0     | 0   | 0     | 0   |
| 155° | 0  | 0     | 0   | 0     | 0   |
| 156° | 0  | 0     | 0   | 0     | 0   |
| 157° | 0  | 0     | 0   | 0     | 0   |
| 158° | 0  | 0     | 0   | 0     | 0   |
| 159° | 0  | 0     | 0   | 0     | 0   |
| 160° | 0  | 0     | 0   | 0     | 0   |
| 161° | 0  | 0     | 0   | 0     | 0   |
| 162° | 0  | 0     | 0   | 0     | 0   |
| 163° | 0  | 0     | 0   | 0     | 0   |
| 164° | 0  | 0     | 0   | 0     | 0   |
| 165° | 0  | 0     | 0   | 0     | 0   |
| 166° | 0  | 0     | 0   | 0     | 0   |
| 167° | 0  | 0     | 0   | 0     | 0   |
| 168° | 0  | 0     | 0   | 0     | 0   |
| 169° | 0  | 0     | 0   | 0     | 0   |
| 170° | 0  | 0     | 0   | 0     | 0   |
| 171° | 0  | 0     | 0   | 0     | 0   |
| 172° | 0  | 0     | 0   | 0     | 0   |
| 173° | 0  | 0     | 0   | 0     | 0   |
| 174° | 0  | 0     | 0   | 0     | 0   |
| 175° | 0  | 0     | 0   | 0     | 0   |
| 176° | 0  | 0     | 0   | 0     | 0   |
| 177° | 0  | 0     | 0   | 0     | 0   |
| 178° | 0  | 0     | 0   | 0     | 0   |
| 179° | 0  | 0     | 0   | 0     | 0   |



TEST NUMBER: 08544

CATALOG NUMBER: SURE LITES 029-134

CANDELA DISTRIBUTION (continued):

|      | 0° | 22.5° | 45° | 67.5° | 90° |
|------|----|-------|-----|-------|-----|
| 180° | 0  | 0     | 0   | 0     | 0   |

(END OF REPORT)