

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P130166

Luminaire Tested: **HL612ICAT - HLM6930 - HL6FL - 455SN**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P130166  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33450)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL612ICAT - HLM6930 - HL6FL - 455SN  
Description: HALO ALLSLOPE 6" 21W, Satin Nickel Reflector, Satin Nickel Metal Trim Ring using 40 Degree Optic at a 6-12 Pitch  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1514.0 lumens  
Efficiency: N/A  
Efficacy: 79.3 lumens/watt  
Spacing Criteria (0/90/45): 1.56 / 0.66 / 1.06  
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')  
CIE Type: Direct

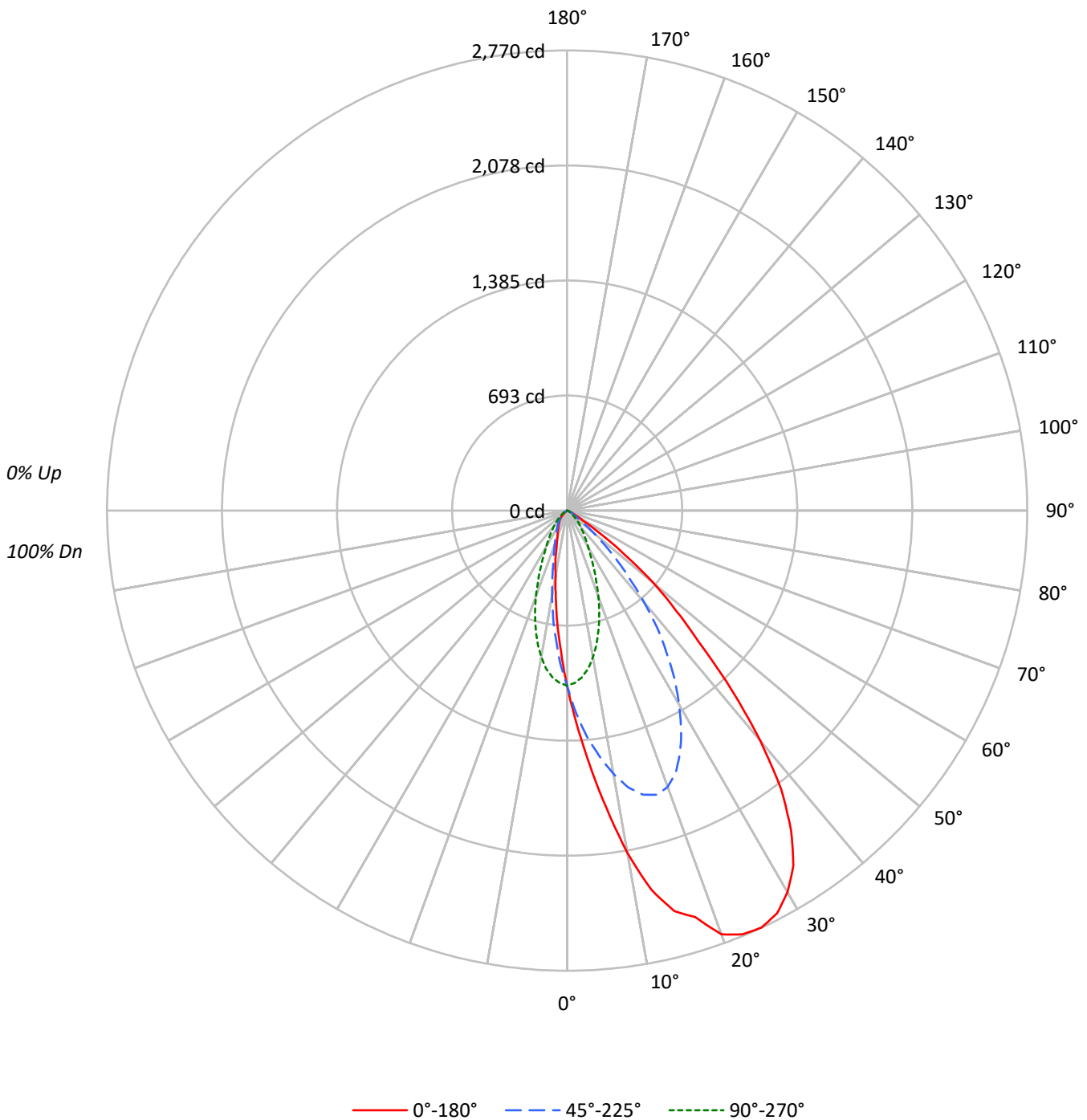
Input Watts (W): 19.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### 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 |    |    |    | 100 |
| 1   | 113 | 110 | 107 | 104 | 110 | 107 | 105 | 103 | 103 | 101 | 99  | 100 | 98  | 96  | 96  | 95  | 94  | 92  |    |    |    | 92  |
| 2   | 106 | 101 | 96  | 92  | 104 | 99  | 95  | 91  | 95  | 92  | 89  | 92  | 90  | 87  | 90  | 87  | 85  | 84  |    |    |    | 84  |
| 3   | 100 | 92  | 87  | 82  | 98  | 91  | 86  | 81  | 88  | 84  | 80  | 86  | 82  | 79  | 83  | 80  | 78  | 76  |    |    |    | 76  |
| 4   | 94  | 85  | 79  | 74  | 92  | 84  | 78  | 73  | 81  | 76  | 72  | 79  | 75  | 72  | 77  | 74  | 71  | 69  |    |    |    | 69  |
| 5   | 88  | 78  | 72  | 67  | 86  | 77  | 71  | 66  | 75  | 70  | 66  | 74  | 69  | 65  | 72  | 68  | 65  | 63  |    |    |    | 63  |
| 6   | 83  | 72  | 66  | 61  | 81  | 72  | 65  | 60  | 70  | 64  | 60  | 68  | 63  | 60  | 67  | 63  | 59  | 57  |    |    |    | 57  |
| 7   | 78  | 67  | 60  | 55  | 76  | 66  | 60  | 55  | 65  | 59  | 55  | 64  | 59  | 55  | 63  | 58  | 54  | 53  |    |    |    | 53  |
| 8   | 73  | 62  | 56  | 51  | 72  | 62  | 55  | 51  | 61  | 55  | 51  | 60  | 54  | 50  | 58  | 54  | 50  | 49  |    |    |    | 49  |
| 9   | 69  | 58  | 51  | 47  | 68  | 58  | 51  | 47  | 57  | 51  | 47  | 56  | 50  | 47  | 55  | 50  | 46  | 45  |    |    |    | 45  |
| 10  | 65  | 54  | 48  | 43  | 64  | 54  | 48  | 43  | 53  | 47  | 43  | 52  | 47  | 43  | 51  | 47  | 43  | 42  |    |    |    | 42  |

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

|     | 0°     | 90°   | 180°  |
|-----|--------|-------|-------|
| 0°  | 62932  | 62932 | 62932 |
| 5°  | 89329  | 59067 | 39673 |
| 10° | 121269 | 51837 | 23067 |
| 15° | 144049 | 42234 | 14474 |
| 20° | 157241 | 31850 | 9927  |
| 25° | 162294 | 22034 | 7571  |
| 30° | 158518 | 15095 | 6089  |
| 35° | 144403 | 10838 | 5038  |
| 40° | 115139 | 7913  | 4008  |
| 45° | 74844  | 5636  | 2761  |
| 50° | 47719  | 3738  | 1813  |
| 55° | 19184  | 2565  | 875   |
| 60° | 5551   | 1692  | 613   |
| 65° | 3275   | 891   | 369   |
| 70° | 1584   | 414   | 252   |
| 75° | 289    | 289   | 197   |
| 80° | 110    | 233   | 110   |
| 85° | 0      | 288   | 0     |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 101.2  | 6.7       |
| 10°-20°   | 295.0  | 19.5      |
| 20°-30°   | 415.5  | 27.4      |
| 30°-40°   | 391.4  | 25.8      |
| 40°-50°   | 226.3  | 14.9      |
| 50°-60°   | 65.7   | 4.3       |
| 60°-70°   | 15.0   | 1.0       |
| 70°-80°   | 2.9    | 0.2       |
| 80°-90°   | 0.9    | 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°    | 811.7  | 53.6      |
| 0°-40°    | 1203.1 | 79.5      |
| 0°-60°    | 1495.1 | 98.8      |
| 0°-90°    | 1514.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1514.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1054 | 1054 | 1054 | 1054 | 1054 |      |
| 5°  | 1526 | 1364 | 1009 | 776  | 678  | 163  |
| 15° | 2497 | 1771 | 732  | 322  | 251  | 703  |
| 25° | 2770 | 1608 | 376  | 156  | 129  | 1266 |
| 35° | 2350 | 1044 | 176  | 94   | 82   | 1440 |
| 45° | 1122 | 428  | 84   | 50   | 41   | 902  |
| 55° | 254  | 67   | 34   | 18   | 12   | 261  |
| 65° | 36   | 23   | 10   | 5    | 4    | 38   |
| 75° | 2    | 2    | 2    | 2    | 2    | 5    |
| 85° | 0    | 1    | 2    | 1    | 0    | 0    |
| 90° | 0    | 0    | 0    | 0    | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 |
| 2.5°  | 1277.1 | 1266.3 | 1276.2 | 1253.0 | 1269.6 | 1236.5 | 1229.9 | 1224.1 | 1224.1 | 1218.3 | 1186.8 |
| 5°    | 1525.5 | 1500.7 | 1513.1 | 1486.6 | 1491.6 | 1440.2 | 1425.3 | 1400.5 | 1388.9 | 1364.0 | 1311.9 |
| 7.5°  | 1803.8 | 1774.8 | 1778.1 | 1730.1 | 1732.6 | 1663.8 | 1614.1 | 1584.3 | 1543.7 | 1490.7 | 1420.3 |
| 10°   | 2094.5 | 2067.2 | 2068.8 | 2024.9 | 1995.9 | 1902.4 | 1825.3 | 1764.0 | 1692.0 | 1609.2 | 1509.0 |
| 12.5° | 2337.1 | 2318.9 | 2309.0 | 2253.5 | 2211.3 | 2109.4 | 2017.5 | 1924.7 | 1827.0 | 1707.7 | 1571.1 |
| 15°   | 2497.0 | 2496.2 | 2492.8 | 2424.9 | 2381.9 | 2263.4 | 2169.9 | 2052.3 | 1927.2 | 1770.7 | 1603.4 |
| 17.5° | 2565.7 | 2619.6 | 2617.9 | 2545.0 | 2496.2 | 2371.9 | 2266.8 | 2130.9 | 1981.9 | 1793.9 | 1633.2 |
| 20°   | 2714.8 | 2702.4 | 2699.1 | 2618.7 | 2569.0 | 2435.7 | 2315.6 | 2159.9 | 1987.7 | 1769.8 | 1557.8 |
| 22.5° | 2761.2 | 2747.1 | 2738.8 | 2653.5 | 2598.9 | 2458.9 | 2321.4 | 2142.5 | 1942.9 | 1707.7 | 1488.3 |
| 25°   | 2769.5 | 2751.2 | 2741.3 | 2650.2 | 2588.1 | 2434.0 | 2275.9 | 2069.6 | 1846.0 | 1608.3 | 1394.7 |
| 27.5° | 2734.7 | 2715.6 | 2692.4 | 2603.8 | 2532.6 | 2362.8 | 2177.3 | 1948.7 | 1707.7 | 1487.4 | 1277.9 |
| 30°   | 2652.7 | 2636.1 | 2614.6 | 2521.8 | 2432.4 | 2240.3 | 2027.4 | 1765.7 | 1530.5 | 1345.8 | 1144.6 |
| 32.5° | 2534.3 | 2511.1 | 2487.9 | 2373.6 | 2265.9 | 2056.4 | 1829.5 | 1579.4 | 1370.7 | 1203.4 | 1017.8 |
| 35°   | 2350.4 | 2339.6 | 2297.4 | 2165.7 | 2040.7 | 1807.9 | 1601.7 | 1394.7 | 1232.3 | 1043.5 | 872.9  |
| 37.5° | 2117.7 | 2140.0 | 2056.4 | 1909.0 | 1767.4 | 1553.7 | 1393.0 | 1203.4 | 1052.6 | 889.5  | 730.5  |
| 40°   | 1807.1 | 1788.9 | 1733.4 | 1600.1 | 1484.9 | 1321.0 | 1181.8 | 1020.3 | 865.5  | 721.4  | 581.4  |
| 42.5° | 1471.7 | 1442.7 | 1413.7 | 1303.6 | 1205.0 | 1055.1 | 929.2  | 789.3  | 669.2  | 558.2  | 438.9  |
| 45°   | 1122.2 | 1118.9 | 1088.2 | 1000.5 | 931.7  | 823.2  | 725.5  | 627.8  | 526.7  | 428.2  | 325.5  |
| 47.5° | 885.3  | 882.8  | 847.2  | 787.6  | 736.3  | 646.0  | 565.7  | 482.8  | 389.2  | 307.3  | 239.3  |
| 50°   | 676.6  | 678.3  | 651.0  | 607.9  | 551.6  | 481.2  | 408.3  | 332.9  | 255.9  | 202.1  | 159.8  |
| 52.5° | 446.4  | 452.2  | 436.5  | 392.6  | 344.5  | 284.9  | 230.2  | 181.4  | 141.6  | 115.1  | 91.1   |
| 55°   | 254.3  | 243.5  | 225.3  | 204.6  | 168.1  | 128.4  | 106.8  | 89.4   | 77.8   | 67.1   | 59.6   |
| 57.5° | 115.1  | 114.3  | 105.2  | 92.8   | 80.3   | 70.4   | 63.8   | 58.0   | 54.7   | 50.5   | 47.2   |
| 60°   | 67.9   | 67.1   | 65.4   | 61.3   | 57.1   | 53.0   | 48.9   | 45.6   | 43.9   | 40.6   | 37.3   |
| 62.5° | 49.7   | 48.9   | 48.0   | 45.6   | 43.1   | 39.8   | 38.1   | 37.3   | 34.0   | 31.5   | 29.0   |
| 65°   | 36.4   | 35.6   | 35.6   | 34.0   | 32.3   | 30.6   | 29.0   | 27.3   | 24.8   | 23.2   | 21.5   |
| 67.5° | 26.5   | 25.7   | 25.7   | 24.0   | 22.4   | 21.5   | 19.9   | 18.2   | 17.4   | 15.7   | 14.9   |
| 70°   | 15.7   | 15.7   | 15.7   | 14.9   | 14.1   | 12.4   | 11.6   | 10.8   | 9.9    | 9.1    | 8.3    |
| 72.5° | 7.5    | 8.3    | 7.5    | 7.5    | 6.6    | 6.6    | 5.8    | 5.8    | 5.0    | 5.0    | 4.1    |
| 75°   | 2.5    | 3.3    | 3.3    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    |
| 77.5° | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 80°   | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 1.7    | 1.7    |
| 82.5° | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 1.7    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    |
| 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°    | 95°    | 100°   | 105°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 |
| 2.5°  | 1181.0 | 1147.9 | 1134.6 | 1124.7 | 1098.2 | 1086.6 | 1063.4 | 1038.5 | 1020.3 | 1008.7 | 986.4  |
| 5°    | 1288.7 | 1234.0 | 1198.4 | 1170.2 | 1124.7 | 1094.9 | 1068.4 | 1008.7 | 974.0  | 947.4  | 911.0  |
| 7.5°  | 1378.9 | 1301.9 | 1243.9 | 1193.4 | 1128.0 | 1080.0 | 1034.4 | 960.7  | 911.0  | 873.7  | 824.0  |
| 10°   | 1439.4 | 1341.7 | 1262.2 | 1190.9 | 1106.5 | 1042.7 | 980.6  | 895.3  | 831.5  | 783.5  | 731.3  |
| 12.5° | 1477.5 | 1353.3 | 1254.7 | 1166.1 | 1064.2 | 985.5  | 910.2  | 819.9  | 747.9  | 687.4  | 632.7  |
| 15°   | 1483.3 | 1339.2 | 1223.2 | 1116.4 | 1000.5 | 912.7  | 828.2  | 732.1  | 655.9  | 596.3  | 527.6  |
| 17.5° | 1460.9 | 1297.8 | 1164.4 | 1045.2 | 923.4  | 829.0  | 737.1  | 642.7  | 566.5  | 494.4  | 433.1  |
| 20°   | 1407.9 | 1231.5 | 1089.1 | 959.9  | 836.5  | 737.9  | 644.3  | 549.9  | 473.7  | 405.0  | 354.5  |
| 22.5° | 1332.6 | 1148.7 | 998.0  | 866.3  | 744.5  | 641.8  | 552.4  | 455.5  | 383.5  | 332.1  | 293.2  |
| 25°   | 1232.3 | 1046.8 | 896.1  | 766.1  | 642.7  | 543.3  | 458.0  | 376.0  | 313.9  | 276.6  | 244.3  |
| 27.5° | 1092.4 | 934.2  | 786.8  | 661.7  | 550.7  | 448.9  | 371.9  | 306.4  | 263.4  | 231.9  | 205.4  |
| 30°   | 987.2  | 814.9  | 677.5  | 559.9  | 450.5  | 365.2  | 303.9  | 252.6  | 220.3  | 193.8  | 172.3  |
| 32.5° | 856.3  | 695.7  | 569.8  | 458.8  | 361.9  | 298.1  | 251.8  | 212.0  | 183.9  | 164.8  | 148.2  |
| 35°   | 722.2  | 582.2  | 462.1  | 364.4  | 292.4  | 246.0  | 209.5  | 176.4  | 154.9  | 139.1  | 126.7  |
| 37.5° | 595.5  | 466.3  | 360.3  | 287.4  | 238.5  | 199.6  | 171.4  | 147.4  | 130.9  | 119.3  | 109.3  |
| 40°   | 467.1  | 358.6  | 279.1  | 227.8  | 189.7  | 162.3  | 141.6  | 124.2  | 111.0  | 101.9  | 95.2   |
| 42.5° | 349.5  | 269.2  | 218.6  | 181.4  | 154.0  | 135.0  | 119.3  | 105.2  | 94.4   | 87.8   | 80.3   |
| 45°   | 262.5  | 208.7  | 173.1  | 146.6  | 124.2  | 109.3  | 96.1   | 84.5   | 76.2   | 70.4   | 65.4   |
| 47.5° | 196.3  | 157.4  | 130.9  | 110.1  | 93.6   | 82.0   | 72.9   | 64.6   | 59.6   | 57.1   | 53.8   |
| 50°   | 131.7  | 106.0  | 89.4   | 76.2   | 67.1   | 60.5   | 56.3   | 53.0   | 49.7   | 47.2   | 44.7   |
| 52.5° | 80.3   | 67.9   | 61.3   | 54.7   | 52.2   | 49.7   | 46.4   | 43.1   | 38.9   | 37.3   | 34.8   |
| 55°   | 55.5   | 50.5   | 48.0   | 44.7   | 42.2   | 39.8   | 36.4   | 34.0   | 31.5   | 30.6   | 28.2   |
| 57.5° | 44.7   | 41.4   | 38.9   | 35.6   | 33.1   | 31.5   | 29.8   | 27.3   | 24.8   | 24.0   | 22.4   |
| 60°   | 34.8   | 32.3   | 30.6   | 28.2   | 26.5   | 24.8   | 23.2   | 20.7   | 19.0   | 17.4   | 15.7   |
| 62.5° | 27.3   | 24.8   | 23.2   | 21.5   | 19.9   | 18.2   | 16.6   | 14.9   | 13.3   | 12.4   | 10.8   |
| 65°   | 20.7   | 18.2   | 16.6   | 14.9   | 13.3   | 12.4   | 10.8   | 9.9    | 8.3    | 8.3    | 6.6    |
| 67.5° | 13.3   | 11.6   | 10.8   | 9.9    | 9.1    | 7.5    | 6.6    | 5.8    | 5.8    | 5.0    | 5.0    |
| 70°   | 7.5    | 6.6    | 5.8    | 5.8    | 5.0    | 5.0    | 4.1    | 4.1    | 3.3    | 3.3    | 3.3    |
| 72.5° | 4.1    | 3.3    | 3.3    | 3.3    | 3.3    | 3.3    | 3.3    | 3.3    | 2.5    | 2.5    | 2.5    |
| 75°   | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    |
| 77.5° | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 80°   | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 82.5° | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 85°   | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 87.5° | 0.8    | 0.8    | 0.8    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 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):**

|       | 110°   | 115°   | 120°   | 125°   | 130°   | 135°   | 140°   | 145°   | 150°   | 155°   | 160°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 | 1054.3 |
| 2.5°  | 984.7  | 959.0  | 936.7  | 933.4  | 920.1  | 922.6  | 903.6  | 886.2  | 902.7  | 863.0  | 863.0  |
| 5°    | 894.4  | 858.8  | 822.4  | 808.3  | 785.1  | 776.0  | 753.7  | 734.6  | 727.1  | 700.6  | 695.7  |
| 7.5°  | 800.9  | 754.5  | 710.6  | 689.1  | 658.4  | 647.6  | 620.3  | 594.6  | 576.4  | 555.7  | 545.8  |
| 10°   | 692.4  | 643.5  | 598.0  | 573.1  | 537.5  | 517.6  | 491.1  | 460.5  | 454.7  | 420.7  | 413.3  |
| 12.5° | 586.4  | 533.4  | 490.3  | 458.0  | 424.9  | 408.3  | 380.1  | 360.3  | 346.2  | 326.3  | 320.5  |
| 15°   | 483.7  | 434.0  | 390.9  | 366.1  | 337.1  | 322.2  | 303.9  | 288.2  | 277.4  | 263.4  | 258.4  |
| 17.5° | 395.0  | 349.5  | 315.5  | 297.3  | 276.6  | 263.4  | 250.1  | 235.2  | 227.8  | 216.2  | 211.2  |
| 20°   | 318.9  | 288.2  | 258.4  | 243.5  | 228.6  | 217.8  | 207.0  | 194.6  | 190.5  | 182.2  | 178.1  |
| 22.5° | 268.3  | 242.7  | 217.0  | 202.9  | 190.5  | 184.7  | 175.6  | 165.6  | 162.3  | 154.9  | 153.2  |
| 25°   | 223.6  | 199.6  | 183.0  | 173.1  | 163.2  | 156.5  | 149.1  | 141.6  | 139.1  | 133.3  | 132.5  |
| 27.5° | 187.2  | 170.6  | 156.5  | 148.2  | 139.1  | 135.0  | 129.2  | 123.4  | 125.1  | 117.6  | 115.9  |
| 30°   | 157.4  | 145.8  | 134.2  | 128.4  | 120.9  | 118.4  | 114.3  | 109.3  | 106.8  | 104.4  | 104.4  |
| 32.5° | 137.5  | 125.9  | 116.8  | 112.6  | 106.8  | 106.0  | 102.7  | 97.7   | 98.6   | 94.4   | 93.6   |
| 35°   | 119.3  | 109.3  | 103.5  | 99.4   | 96.1   | 94.4   | 91.9   | 87.8   | 87.0   | 84.5   | 83.6   |
| 37.5° | 103.5  | 96.1   | 91.1   | 88.6   | 85.3   | 83.6   | 81.2   | 76.2   | 77.0   | 74.5   | 73.7   |
| 40°   | 90.3   | 84.5   | 79.5   | 77.8   | 73.7   | 72.9   | 70.4   | 66.3   | 66.3   | 63.8   | 63.8   |
| 42.5° | 76.2   | 72.1   | 67.1   | 64.6   | 62.1   | 61.3   | 59.6   | 56.3   | 55.5   | 53.8   | 53.0   |
| 45°   | 62.9   | 58.8   | 56.3   | 53.8   | 52.2   | 50.5   | 48.9   | 46.4   | 45.6   | 43.9   | 43.1   |
| 47.5° | 52.2   | 48.9   | 45.6   | 43.9   | 41.4   | 40.6   | 38.9   | 37.3   | 36.4   | 34.8   | 34.0   |
| 50°   | 42.2   | 38.9   | 36.4   | 34.8   | 33.1   | 33.1   | 31.5   | 29.0   | 28.2   | 27.3   | 26.5   |
| 52.5° | 33.1   | 31.5   | 29.8   | 28.2   | 26.5   | 25.7   | 24.0   | 21.5   | 20.7   | 19.9   | 19.0   |
| 55°   | 26.5   | 24.8   | 22.4   | 21.5   | 19.0   | 18.2   | 16.6   | 15.7   | 14.1   | 13.3   | 13.3   |
| 57.5° | 20.7   | 18.2   | 16.6   | 14.9   | 13.3   | 13.3   | 11.6   | 10.8   | 9.9    | 9.1    | 9.1    |
| 60°   | 14.9   | 12.4   | 11.6   | 9.9    | 9.1    | 8.3    | 8.3    | 7.5    | 7.5    | 6.6    | 6.6    |
| 62.5° | 9.9    | 8.3    | 7.5    | 7.5    | 6.6    | 6.6    | 5.8    | 5.8    | 5.8    | 5.8    | 5.8    |
| 65°   | 6.6    | 5.8    | 5.8    | 5.0    | 5.0    | 5.0    | 5.0    | 5.0    | 5.0    | 5.0    | 5.0    |
| 67.5° | 5.0    | 4.1    | 4.1    | 4.1    | 4.1    | 4.1    | 4.1    | 4.1    | 4.1    | 3.3    | 3.3    |
| 70°   | 3.3    | 3.3    | 3.3    | 3.3    | 3.3    | 3.3    | 3.3    | 2.5    | 2.5    | 2.5    | 2.5    |
| 72.5° | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    | 1.7    | 1.7    |
| 75°   | 2.5    | 2.5    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    |
| 77.5° | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 1.7    | 0.8    | 0.8    | 0.8    | 0.8    |
| 80°   | 1.7    | 1.7    | 1.7    | 1.7    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    |
| 82.5° | 1.7    | 1.7    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    |
| 85°   | 1.7    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.0    | 0.0    |
| 87.5° | 1.7    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.8    | 0.0    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |





TEST NUMBER: P130166

CATALOG NUMBER: HL612ICAT - HLM6930 - HL6FL - 455SN

**CANDELA DISTRIBUTION (continued):**

|       | 165°   | 170°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|
| 0°    | 1054.3 | 1054.3 | 1054.3 | 1054.3 |
| 2.5°  | 869.6  | 864.6  | 858.0  | 848.1  |
| 5°    | 699.0  | 677.5  | 684.1  | 677.5  |
| 7.5°  | 552.4  | 533.4  | 531.7  | 524.2  |
| 10°   | 411.6  | 402.5  | 397.5  | 398.4  |
| 12.5° | 322.2  | 312.2  | 308.1  | 329.6  |
| 15°   | 259.2  | 249.3  | 249.3  | 250.9  |
| 17.5° | 209.5  | 205.4  | 203.7  | 202.1  |
| 20°   | 177.2  | 173.9  | 171.4  | 171.4  |
| 22.5° | 151.6  | 149.1  | 146.6  | 148.2  |
| 25°   | 131.7  | 129.2  | 128.4  | 129.2  |
| 27.5° | 116.8  | 114.3  | 111.8  | 113.5  |
| 30°   | 104.4  | 102.7  | 101.9  | 101.9  |
| 32.5° | 94.4   | 92.8   | 91.9   | 91.9   |
| 35°   | 84.5   | 82.0   | 82.0   | 82.0   |
| 37.5° | 73.7   | 72.1   | 72.1   | 72.9   |
| 40°   | 63.8   | 59.6   | 62.1   | 62.9   |
| 42.5° | 53.0   | 51.3   | 51.3   | 52.2   |
| 45°   | 42.2   | 41.4   | 41.4   | 41.4   |
| 47.5° | 34.0   | 33.1   | 32.3   | 33.1   |
| 50°   | 25.7   | 24.8   | 24.8   | 25.7   |
| 52.5° | 18.2   | 17.4   | 17.4   | 17.4   |
| 55°   | 12.4   | 12.4   | 11.6   | 11.6   |
| 57.5° | 9.1    | 8.3    | 8.3    | 8.3    |
| 60°   | 6.6    | 6.6    | 6.6    | 7.5    |
| 62.5° | 5.8    | 5.8    | 5.8    | 5.8    |
| 65°   | 5.0    | 5.0    | 4.1    | 4.1    |
| 67.5° | 3.3    | 3.3    | 3.3    | 3.3    |
| 70°   | 2.5    | 2.5    | 2.5    | 2.5    |
| 72.5° | 1.7    | 1.7    | 1.7    | 1.7    |
| 75°   | 1.7    | 1.7    | 1.7    | 1.7    |
| 77.5° | 0.8    | 0.8    | 0.8    | 0.8    |
| 80°   | 0.8    | 0.8    | 0.8    | 0.8    |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)