

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 COMMERCIAL

Report Number: P593732

Luminaire Tested: **HC850D010-HM82555850-81RWWC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593732  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC850D010-HM82555850-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4938.8 lumens  
Efficiency: N/A  
Efficacy: 120.5 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

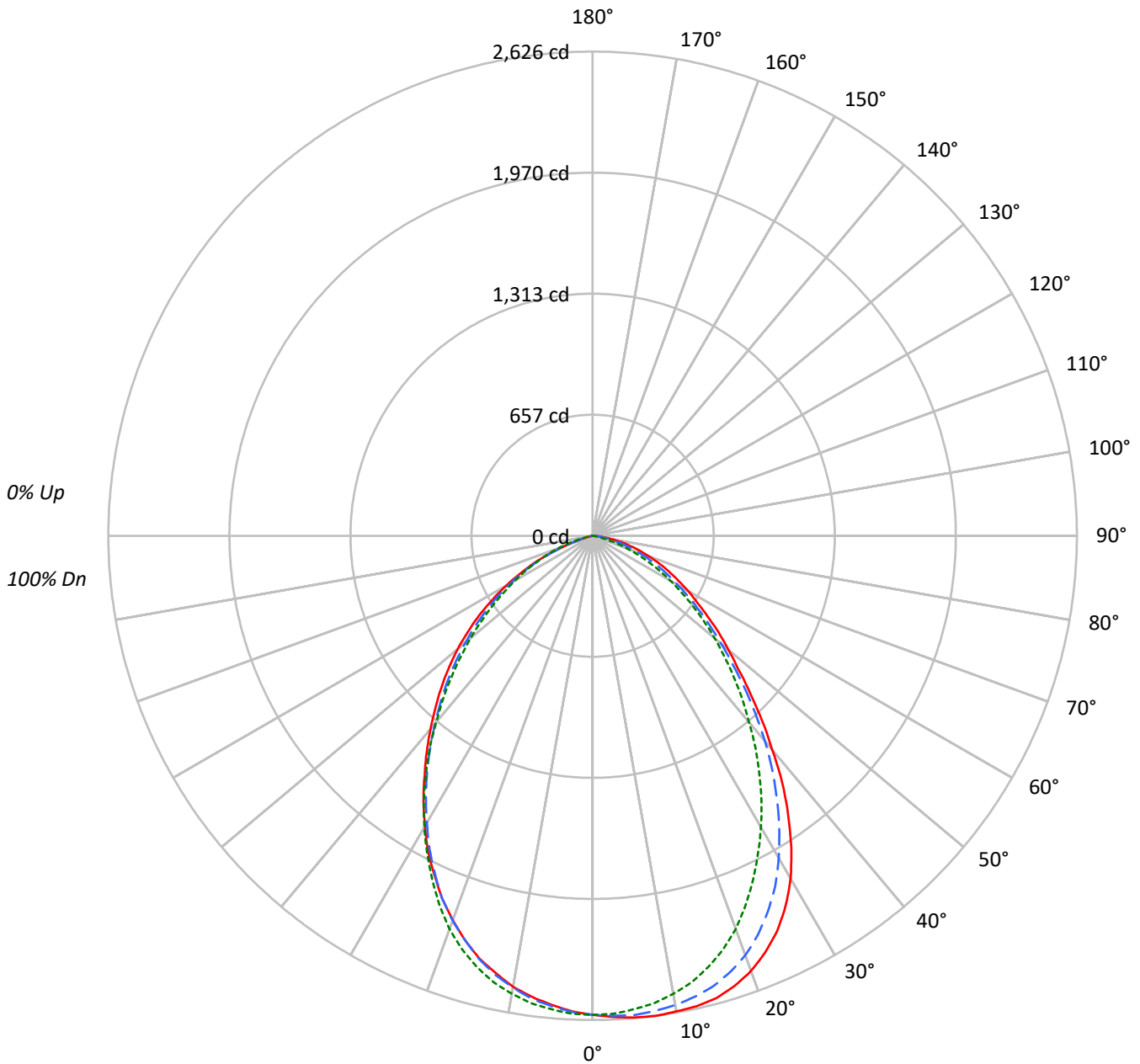
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
RC	80									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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77																			
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67																			
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59																			
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

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

	0°	90°	180°
0°	80131	80131	80131
5°	81190	79793	79041
10°	82019	78978	77782
15°	82849	77307	75759
20°	82429	74458	72752
25°	80508	70001	69059
30°	76469	64982	64733
35°	69615	59293	59817
40°	61033	53071	55027
45°	52654	47203	50534
50°	46102	41444	45771
55°	40848	35628	40283
60°	36806	29961	33377
65°	33163	24049	25574
70°	29085	17518	14074
75°	24794	9091	3717
80°	19108	2468	622
85°	12277	0	0



TEST NUMBER: P593732

CATALOG NUMBER: HC850D010-HM82555850-81RWWC

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	245.2	5.0
10°-20°	689.2	14.0
20°-30°	978.3	19.8
30°-40°	1029.8	20.9
40°-50°	876.0	17.7
50°-60°	633.1	12.8
60°-70°	360.1	7.3
70°-80°	113.5	2.3
80°-90°	13.8	0.3
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°	1912.7	38.7
0°-40°	2942.5	59.6
0°-60°	4451.5	90.1
0°-90°	4938.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4938.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2599	2599	2599	2599	2599	
5°	2623	2609	2578	2560	2554	250
15°	2595	2529	2422	2376	2373	731
25°	2366	2248	2057	2023	2030	1084
35°	1849	1742	1575	1565	1589	1151
45°	1207	1162	1082	1110	1159	939
55°	760	704	663	701	749	685
65°	454	392	330	326	350	451
75°	208	160	76	35	31	224
85°	35	21	0	0	0	45
90°	0	0	0	0	0	



TEST NUMBER: P593732

CATALOG NUMBER: HC850D010-HM82555850-81RWWC

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6
2.5°	2612.5	2616.0	2609.1	2609.1	2616.0	2609.1	2612.5	2612.5	2609.1	2609.1	2605.5
5°	2622.9	2619.4	2619.4	2619.4	2622.9	2616.0	2612.5	2616.0	2609.1	2609.1	2609.1
7.5°	2626.3	2626.3	2622.9	2619.4	2619.4	2619.4	2616.0	2612.5	2609.1	2602.1	2598.6
10°	2619.4	2619.4	2622.9	2616.0	2616.0	2609.1	2609.1	2602.1	2602.1	2595.2	2584.7
12.5°	2612.5	2609.1	2609.1	2602.1	2602.1	2595.2	2595.2	2584.7	2581.2	2570.9	2560.4
15°	2595.2	2591.7	2584.7	2581.2	2577.8	2574.3	2567.4	2564.0	2553.5	2539.6	2529.2
17.5°	2560.4	2557.0	2553.5	2546.6	2539.6	2536.1	2532.7	2522.3	2508.4	2498.0	2480.7
20°	2511.9	2508.4	2508.4	2498.0	2494.5	2484.1	2480.7	2466.8	2456.4	2435.6	2421.6
22.5°	2445.9	2449.4	2442.5	2435.6	2428.7	2418.2	2411.3	2397.4	2380.0	2359.2	2341.9
25°	2366.2	2369.6	2362.7	2355.7	2345.4	2338.4	2331.4	2310.6	2293.2	2269.0	2248.1
27.5°	2265.5	2265.5	2265.5	2258.6	2241.2	2237.8	2230.9	2210.1	2185.8	2165.0	2144.1
30°	2147.6	2144.1	2144.1	2133.7	2126.8	2112.8	2102.5	2085.1	2067.7	2043.5	2019.2
32.5°	2005.4	2008.8	1998.4	1991.5	1981.1	1981.1	1967.2	1953.3	1932.4	1908.2	1883.9
35°	1849.3	1852.7	1845.7	1842.2	1825.0	1821.4	1818.0	1800.6	1786.8	1769.4	1741.7
37.5°	1689.7	1686.1	1682.7	1682.7	1672.3	1665.3	1658.4	1648.0	1627.2	1613.3	1599.4
40°	1516.2	1516.2	1516.2	1512.7	1509.2	1502.3	1498.8	1491.9	1478.0	1464.1	1453.7
42.5°	1360.1	1360.1	1356.6	1353.0	1346.1	1349.6	1342.7	1335.8	1321.9	1311.5	1304.5
45°	1207.4	1207.4	1207.4	1210.8	1203.9	1193.5	1193.5	1186.5	1179.6	1172.6	1162.3
47.5°	1072.1	1082.4	1075.5	1072.1	1075.5	1061.6	1061.6	1054.7	1047.8	1040.9	1027.0
50°	961.0	961.0	961.0	954.1	950.6	950.6	940.2	933.3	929.9	922.8	909.0
52.5°	860.4	853.5	853.5	850.0	846.6	839.7	839.7	832.6	818.8	811.8	801.5
55°	759.8	759.8	756.4	752.9	749.3	745.9	742.4	732.1	725.1	714.7	704.2
57.5°	669.6	676.5	673.1	666.2	659.1	659.1	652.2	645.3	634.9	624.5	614.0
60°	596.8	593.3	593.3	589.8	582.9	579.4	576.0	565.5	555.1	544.7	534.3
62.5°	520.4	520.4	520.4	513.5	506.6	503.0	499.6	492.7	478.7	468.4	461.5
65°	454.5	451.0	447.6	444.1	440.7	433.6	430.2	423.3	412.8	402.5	392.1
67.5°	388.5	385.1	385.1	381.6	371.3	367.7	367.7	357.4	347.0	336.5	326.2
70°	322.6	322.6	322.6	315.7	312.3	308.8	305.4	298.3	288.0	277.5	267.2
72.5°	267.2	263.7	263.7	260.3	249.8	246.3	242.9	236.0	225.5	218.6	211.6
75°	208.1	208.1	204.7	201.2	197.8	194.3	190.9	183.9	173.5	163.0	159.6
77.5°	159.6	156.1	156.1	152.7	145.8	142.2	142.2	135.3	125.0	117.9	111.0
80°	107.6	111.0	107.6	104.1	100.6	97.1	93.7	90.2	83.3	76.3	69.4
82.5°	65.9	69.4	65.9	65.9	62.5	59.0	59.0	52.0	48.6	45.1	41.6
85°	34.7	34.7	34.7	34.7	31.2	31.2	31.2	27.7	24.3	20.8	20.8
87.5°	10.4	13.9	10.4	10.4	10.4	10.4	10.4	10.4	6.9	6.9	6.9
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: P593732

CATALOG NUMBER: HC850D010-HM82555850-81RWWC

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6
2.5°	2609.1	2605.5	2602.1	2602.1	2602.1	2602.1	2602.1	2598.6	2595.2	2595.2	2595.2
5°	2602.1	2602.1	2602.1	2598.6	2595.2	2595.2	2588.2	2584.7	2581.2	2577.8	2574.3
7.5°	2595.2	2588.2	2584.7	2581.2	2577.8	2577.8	2570.9	2564.0	2564.0	2557.0	2550.1
10°	2574.3	2570.9	2564.0	2557.0	2553.5	2550.1	2543.1	2532.7	2529.2	2522.3	2515.3
12.5°	2550.1	2543.1	2536.1	2522.3	2518.9	2515.3	2501.5	2491.0	2484.1	2480.7	2463.3
15°	2518.9	2505.0	2494.5	2477.2	2473.8	2466.8	2456.4	2445.9	2432.1	2421.6	2414.7
17.5°	2463.3	2449.4	2432.1	2414.7	2407.8	2407.8	2390.5	2376.5	2359.2	2352.3	2338.4
20°	2397.4	2380.0	2366.2	2345.4	2334.9	2324.5	2314.1	2293.2	2279.4	2269.0	2251.7
22.5°	2321.1	2296.8	2279.4	2258.6	2241.2	2230.9	2213.5	2196.1	2178.8	2168.4	2154.5
25°	2223.9	2203.0	2175.3	2154.5	2144.1	2130.2	2109.4	2092.0	2074.8	2057.4	2050.5
27.5°	2116.4	2088.6	2064.3	2040.0	2029.7	2019.2	1994.9	1974.1	1960.3	1942.9	1936.0
30°	1998.4	1970.6	1942.9	1922.1	1911.6	1894.4	1880.4	1856.2	1838.8	1825.0	1807.6
32.5°	1863.1	1842.2	1818.0	1786.8	1779.9	1766.0	1745.1	1734.8	1714.0	1703.5	1689.7
35°	1717.4	1703.5	1679.2	1654.9	1644.5	1637.6	1620.2	1599.4	1585.6	1575.1	1568.2
37.5°	1578.7	1561.3	1537.0	1519.6	1512.7	1502.3	1481.4	1471.1	1457.2	1450.3	1436.3
40°	1429.4	1412.1	1394.7	1384.3	1373.9	1367.0	1353.0	1342.7	1328.8	1318.4	1315.0
42.5°	1283.7	1273.3	1259.4	1245.6	1242.1	1231.6	1224.7	1214.3	1203.9	1200.5	1190.0
45°	1151.8	1141.4	1127.5	1113.7	1110.3	1103.2	1099.8	1089.4	1082.4	1082.4	1082.4
47.5°	1020.1	1009.6	995.7	988.8	992.2	978.4	978.4	975.0	967.9	967.9	971.4
50°	902.0	888.2	884.8	877.7	870.8	863.9	867.4	856.9	856.9	863.9	860.4
52.5°	791.0	777.2	773.7	766.7	763.3	763.3	759.8	759.8	756.4	759.8	759.8
55°	690.4	680.0	673.1	666.2	662.7	662.7	662.7	659.1	655.7	662.7	666.2
57.5°	600.2	596.8	589.8	579.4	576.0	572.5	568.9	568.9	568.9	568.9	572.5
60°	520.4	513.5	506.6	496.1	496.1	492.7	489.2	485.8	485.8	485.8	485.8
62.5°	451.0	440.7	430.2	423.3	419.8	416.4	412.8	405.9	405.9	405.9	405.9
65°	381.6	371.3	364.3	357.4	350.5	350.5	343.4	340.0	333.1	329.6	322.6
67.5°	315.7	308.8	301.8	291.4	288.0	284.5	277.5	274.1	263.7	260.3	256.7
70°	256.7	246.3	239.4	232.4	229.0	222.1	215.2	208.1	201.2	194.3	187.3
72.5°	201.2	190.9	183.9	177.0	170.1	170.1	159.6	152.7	142.2	135.3	125.0
75°	149.2	138.8	131.9	121.4	117.9	114.5	104.1	97.1	86.8	76.3	69.4
77.5°	100.6	93.7	86.8	76.3	69.4	69.4	59.0	52.0	45.1	34.7	31.2
80°	62.5	55.5	48.6	41.6	41.6	34.7	31.2	24.3	17.4	13.9	10.4
82.5°	34.7	31.2	27.7	20.8	20.8	17.4	13.9	10.4	6.9	3.5	3.5
85°	17.4	13.9	10.4	10.4	6.9	6.9	6.9	3.5	3.5	0.0	0.0
87.5°	6.9	3.5	3.5	3.5	3.5	3.5	0.0	0.0	0.0	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: P593732

CATALOG NUMBER: HC850D010-HM82555850-81RWWC

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6
2.5°	2591.7	2591.7	2588.2	2588.2	2588.2	2584.7	2588.2	2584.7	2584.7	2584.7	2588.2
5°	2577.8	2570.9	2570.9	2567.4	2567.4	2564.0	2567.4	2564.0	2560.4	2557.0	2560.4
7.5°	2550.1	2543.1	2539.6	2536.1	2536.1	2536.1	2532.7	2529.2	2532.7	2522.3	2529.2
10°	2511.9	2508.4	2501.5	2498.0	2494.5	2498.0	2494.5	2487.6	2487.6	2487.6	2484.1
12.5°	2463.3	2456.4	2452.9	2449.4	2442.5	2442.5	2445.9	2439.0	2439.0	2432.1	2432.1
15°	2404.3	2397.4	2390.5	2390.5	2383.6	2383.6	2380.0	2380.0	2376.5	2373.1	2373.1
17.5°	2331.4	2321.1	2314.1	2317.6	2314.1	2310.6	2310.6	2303.7	2300.3	2303.7	2303.7
20°	2244.7	2237.8	2230.9	2234.3	2227.4	2223.9	2227.4	2217.0	2220.4	2220.4	2220.4
22.5°	2147.6	2144.1	2133.7	2133.7	2126.8	2123.3	2126.8	2126.8	2130.2	2126.8	2126.8
25°	2040.0	2033.1	2026.2	2026.2	2022.6	2019.2	2022.6	2026.2	2022.6	2026.2	2026.2
27.5°	1925.5	1915.2	1915.2	1908.2	1908.2	1911.6	1908.2	1911.6	1915.2	1915.2	1922.1
30°	1800.6	1797.1	1793.7	1790.2	1790.2	1793.7	1793.7	1793.7	1797.1	1804.2	1804.2
32.5°	1682.7	1675.8	1668.9	1668.9	1675.8	1672.3	1675.8	1675.8	1682.7	1682.7	1689.7
35°	1554.3	1554.3	1547.4	1550.8	1550.8	1550.8	1550.8	1557.8	1564.7	1568.2	1575.1
37.5°	1436.3	1426.0	1429.4	1429.4	1432.9	1429.4	1439.8	1439.8	1446.8	1446.8	1453.7
40°	1307.9	1307.9	1311.5	1307.9	1311.5	1311.5	1318.4	1325.3	1328.8	1335.8	1339.2
42.5°	1186.5	1193.5	1186.5	1190.0	1193.5	1196.9	1200.5	1203.9	1217.7	1224.7	1235.1
45°	1075.5	1079.0	1082.4	1086.0	1082.4	1089.4	1092.9	1099.8	1110.3	1113.7	1117.2
47.5°	967.9	971.4	975.0	978.4	978.4	985.3	988.8	995.7	1002.7	1006.1	1009.6
50°	863.9	870.8	874.3	874.3	877.7	884.8	891.7	891.7	898.6	909.0	912.5
52.5°	770.2	770.2	777.2	780.6	784.1	784.1	794.6	798.0	801.5	808.4	815.3
55°	666.2	676.5	680.0	680.0	687.0	693.9	697.3	700.8	700.8	714.7	714.7
57.5°	576.0	579.4	586.3	586.3	586.3	596.8	596.8	603.7	607.1	610.6	617.6
60°	485.8	492.7	492.7	496.1	492.7	499.6	503.0	510.0	513.5	516.9	520.4
62.5°	402.5	402.5	405.9	405.9	405.9	405.9	412.8	412.8	419.8	423.3	426.7
65°	322.6	322.6	322.6	322.6	322.6	322.6	322.6	322.6	326.2	326.2	333.1
67.5°	249.8	246.3	239.4	242.9	239.4	239.4	236.0	236.0	239.4	239.4	246.3
70°	180.4	177.0	170.1	170.1	166.5	163.0	159.6	156.1	152.7	152.7	152.7
72.5°	117.9	111.0	100.6	97.1	97.1	90.2	83.3	79.8	79.8	79.8	79.8
75°	59.0	52.0	45.1	41.6	41.6	34.7	38.2	34.7	34.7	34.7	34.7
77.5°	24.3	17.4	13.9	13.9	13.9	10.4	10.4	10.4	10.4	10.4	10.4
80°	6.9	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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: P593732

CATALOG NUMBER: HC850D010-HM82555850-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6	2598.6
2.5°	2584.7	2584.7	2577.8	2581.2	2581.2	2581.2	2581.2	2581.2
5°	2553.5	2557.0	2553.5	2557.0	2557.0	2553.5	2553.5	2553.5
7.5°	2522.3	2525.8	2522.3	2525.8	2525.8	2525.8	2522.3	2522.3
10°	2484.1	2484.1	2484.1	2484.1	2484.1	2480.7	2484.1	2484.1
12.5°	2432.1	2432.1	2432.1	2435.6	2435.6	2432.1	2432.1	2428.7
15°	2376.5	2369.6	2373.1	2376.5	2373.1	2373.1	2373.1	2373.1
17.5°	2300.3	2303.7	2300.3	2300.3	2300.3	2300.3	2303.7	2300.3
20°	2220.4	2220.4	2223.9	2220.4	2220.4	2220.4	2220.4	2217.0
22.5°	2130.2	2126.8	2126.8	2130.2	2130.2	2126.8	2130.2	2130.2
25°	2029.7	2033.1	2029.7	2029.7	2033.1	2033.1	2033.1	2029.7
27.5°	1922.1	1925.5	1929.0	1925.5	1925.5	1925.5	1929.0	1932.4
30°	1811.1	1818.0	1811.1	1811.1	1818.0	1814.5	1818.0	1818.0
32.5°	1693.1	1703.5	1696.6	1703.5	1703.5	1706.9	1703.5	1706.9
35°	1575.1	1585.6	1585.6	1585.6	1589.0	1592.5	1592.5	1589.0
37.5°	1464.1	1467.6	1467.6	1474.5	1478.0	1481.4	1481.4	1478.0
40°	1349.6	1356.6	1360.1	1360.1	1360.1	1367.0	1373.9	1367.0
42.5°	1238.6	1242.1	1245.6	1245.6	1252.5	1255.9	1259.4	1259.4
45°	1131.1	1138.0	1141.4	1144.9	1148.4	1155.4	1151.8	1158.8
47.5°	1020.1	1030.4	1033.9	1037.3	1044.3	1047.8	1051.2	1054.7
50°	919.4	926.3	926.3	933.3	943.7	943.7	950.6	954.1
52.5°	818.8	822.3	825.7	829.2	836.1	843.1	843.1	850.0
55°	721.6	725.1	725.1	728.6	732.1	745.9	749.3	749.3
57.5°	621.1	621.1	628.0	631.4	634.9	641.9	641.9	641.9
60°	523.8	527.4	527.4	530.9	534.3	541.2	544.7	541.2
62.5°	426.7	430.2	430.2	433.6	440.7	444.1	440.7	440.7
65°	336.5	340.0	340.0	343.4	350.5	350.5	347.0	350.5
67.5°	246.3	246.3	246.3	246.3	246.3	246.3	246.3	246.3
70°	156.1	152.7	149.2	152.7	152.7	152.7	149.2	156.1
72.5°	76.3	79.8	79.8	79.8	79.8	79.8	79.8	76.3
75°	34.7	34.7	31.2	31.2	31.2	34.7	34.7	31.2
77.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
80°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P





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















(END OF REPORT)