

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: P593800

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593800  
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: 5537.7 lumens  
Efficiency: N/A  
Efficacy: 115.4 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

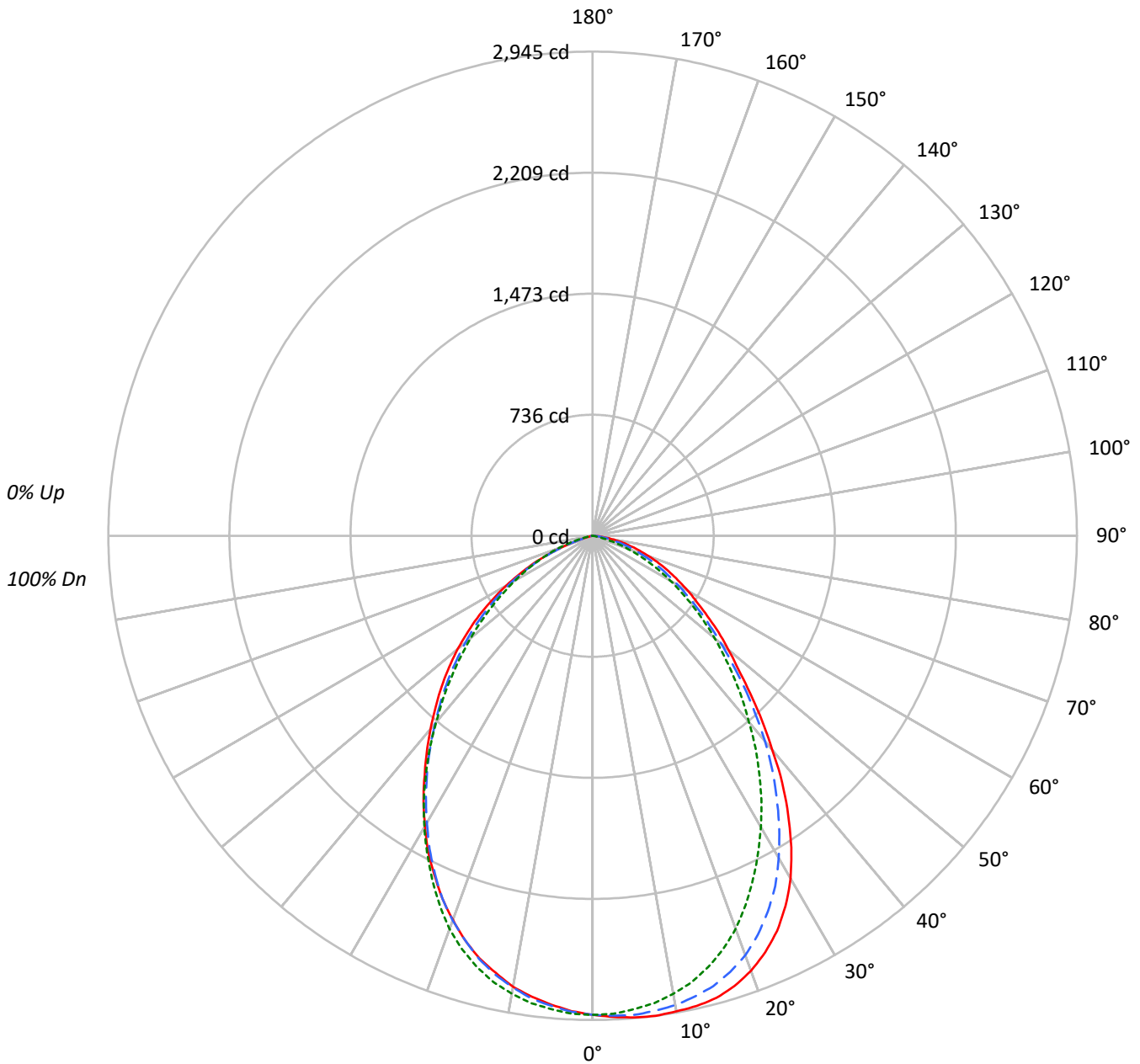
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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								
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°	89848	89848	89848
5°	91036	89470	88625
10°	91967	88557	87216
15°	92896	86687	84947
20°	92424	83489	81572
25°	90266	78490	77429
30°	85741	72858	72581
35°	78055	66483	67071
40°	68432	59503	61697
45°	59038	52933	56661
50°	51695	46466	51321
55°	45805	39945	45176
60°	41265	33587	37423
65°	37183	26961	28668
70°	32620	19646	15778
75°	27808	10199	4170
80°	21416	2752	693
85°	13763	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	274.9	5.0
10°-20°	772.8	14.0
20°-30°	1096.9	19.8
30°-40°	1154.6	20.9
40°-50°	982.3	17.7
50°-60°	709.8	12.8
60°-70°	403.7	7.3
70°-80°	127.2	2.3
80°-90°	15.5	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°	2144.6	38.7
0°-40°	3299.3	59.6
0°-60°	4991.3	90.1
0°-90°	5537.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5537.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2914	2914	2914	2914	2914	
5°	2941	2925	2890	2871	2863	281
15°	2910	2836	2715	2665	2661	819
25°	2653	2521	2307	2268	2276	1215
35°	2074	1953	1766	1754	1782	1290
45°	1354	1303	1214	1245	1299	1052
55°	852	790	743	786	840	768
65°	510	440	370	366	393	505
75°	233	179	86	39	35	251
85°	39	23	0	0	0	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7
2.5°	2929.3	2933.1	2925.4	2925.4	2933.1	2925.4	2929.3	2929.3	2925.4	2925.4	2921.4
5°	2941.0	2937.1	2937.1	2937.1	2941.0	2933.1	2929.3	2933.1	2925.4	2925.4	2925.4
7.5°	2944.8	2944.8	2941.0	2937.1	2937.1	2937.1	2933.1	2929.3	2925.4	2917.6	2913.7
10°	2937.1	2937.1	2941.0	2933.1	2933.1	2925.4	2925.4	2917.6	2917.6	2909.9	2898.2
12.5°	2929.3	2925.4	2925.4	2917.6	2917.6	2909.9	2909.9	2898.2	2894.3	2882.6	2870.9
15°	2909.9	2905.9	2898.2	2894.3	2890.4	2886.5	2878.7	2874.8	2863.1	2847.6	2835.9
17.5°	2870.9	2867.1	2863.1	2855.4	2847.6	2843.7	2839.9	2828.2	2812.6	2800.9	2781.4
20°	2816.5	2812.6	2812.6	2800.9	2797.1	2785.4	2781.4	2765.9	2754.3	2730.9	2715.4
22.5°	2742.6	2746.4	2738.6	2730.9	2723.1	2711.4	2703.7	2688.1	2668.6	2645.3	2625.8
25°	2653.0	2657.0	2649.2	2641.4	2629.8	2622.0	2614.2	2590.9	2571.3	2544.2	2520.8
27.5°	2540.2	2540.2	2540.2	2532.5	2513.0	2509.1	2501.3	2478.0	2450.8	2427.4	2404.2
30°	2408.0	2404.2	2404.2	2392.5	2384.6	2369.1	2357.4	2338.0	2318.5	2291.4	2264.1
32.5°	2248.5	2252.4	2240.7	2232.9	2221.3	2221.3	2205.7	2190.1	2166.9	2139.6	2112.4
35°	2073.5	2077.3	2069.6	2065.6	2046.2	2042.4	2038.4	2019.0	2003.4	1984.0	1952.8
37.5°	1894.5	1890.6	1886.8	1886.8	1875.1	1867.2	1859.5	1847.8	1824.5	1808.9	1793.4
40°	1700.0	1700.0	1700.0	1696.1	1692.2	1684.4	1680.6	1672.7	1657.2	1641.6	1629.9
42.5°	1525.0	1525.0	1521.1	1517.1	1509.4	1513.3	1505.4	1497.7	1482.2	1470.5	1462.7
45°	1353.8	1353.8	1353.8	1357.7	1349.8	1338.2	1338.2	1330.4	1322.6	1314.9	1303.2
47.5°	1202.1	1213.8	1205.9	1202.1	1205.9	1190.4	1190.4	1182.6	1174.8	1167.0	1151.5
50°	1077.6	1077.6	1077.6	1069.8	1065.9	1065.9	1054.2	1046.5	1042.5	1034.8	1019.3
52.5°	964.8	956.9	956.9	953.1	949.2	941.4	941.4	933.7	918.1	910.3	898.6
55°	852.0	852.0	848.1	844.1	840.3	836.4	832.4	820.9	813.0	801.3	789.7
57.5°	750.8	758.6	754.7	746.9	739.2	739.2	731.3	723.6	711.9	700.2	688.5
60°	669.1	665.2	665.2	661.3	653.6	649.6	645.8	634.1	622.4	610.8	599.1
62.5°	583.6	583.6	583.6	575.7	568.0	564.0	560.2	552.4	536.8	525.1	517.4
65°	509.6	505.7	501.9	498.0	494.0	486.3	482.3	474.6	462.9	451.2	439.5
67.5°	435.7	431.8	431.8	428.0	416.3	412.3	412.3	400.7	389.0	377.4	365.7
70°	361.8	361.8	361.8	354.0	350.1	346.3	342.3	334.6	322.9	311.2	299.5
72.5°	299.5	295.6	295.6	291.8	280.1	276.2	272.3	264.5	252.9	245.0	237.3
75°	233.4	233.4	229.5	225.6	221.8	217.9	213.9	206.2	194.5	182.8	179.0
77.5°	179.0	175.0	175.0	171.1	163.4	159.5	159.5	151.7	140.0	132.2	124.5
80°	120.6	124.5	120.6	116.7	112.8	109.0	105.0	101.1	93.4	85.6	77.9
82.5°	73.9	77.9	73.9	73.9	70.0	66.2	66.2	58.3	54.5	50.6	46.6
85°	38.9	38.9	38.9	38.9	35.0	35.0	35.0	31.1	27.2	23.4	23.4
87.5°	11.7	15.5	11.7	11.7	11.7	11.7	11.7	11.7	7.8	7.8	7.8
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7
2.5°	2925.4	2921.4	2917.6	2917.6	2917.6	2917.6	2917.6	2913.7	2909.9	2909.9	2909.9
5°	2917.6	2917.6	2917.6	2913.7	2909.9	2909.9	2902.0	2898.2	2894.3	2890.4	2886.5
7.5°	2909.9	2902.0	2898.2	2894.3	2890.4	2890.4	2882.6	2874.8	2874.8	2867.1	2859.3
10°	2886.5	2882.6	2874.8	2867.1	2863.1	2859.3	2851.4	2839.9	2835.9	2828.2	2820.3
12.5°	2859.3	2851.4	2843.7	2828.2	2824.3	2820.3	2804.8	2793.1	2785.4	2781.4	2762.0
15°	2824.3	2808.6	2797.1	2777.5	2773.7	2765.9	2754.3	2742.6	2727.0	2715.4	2707.5
17.5°	2762.0	2746.4	2727.0	2707.5	2699.8	2699.8	2680.3	2664.7	2645.3	2637.5	2622.0
20°	2688.1	2668.6	2653.0	2629.8	2618.1	2606.4	2594.7	2571.3	2555.8	2544.2	2524.7
22.5°	2602.5	2575.3	2555.8	2532.5	2513.0	2501.3	2481.9	2462.5	2443.0	2431.3	2415.7
25°	2493.6	2470.2	2439.1	2415.7	2404.2	2388.5	2365.2	2345.7	2326.3	2306.9	2299.1
27.5°	2373.0	2341.9	2314.6	2287.4	2275.7	2264.1	2236.9	2213.5	2198.0	2178.4	2170.7
30°	2240.7	2209.6	2178.4	2155.2	2143.5	2124.1	2108.4	2081.3	2061.8	2046.2	2026.8
32.5°	2089.0	2065.6	2038.4	2003.4	1995.6	1980.1	1956.8	1945.1	1921.7	1910.0	1894.5
35°	1925.6	1910.0	1882.8	1855.6	1844.0	1836.1	1816.7	1793.4	1777.8	1766.1	1758.3
37.5°	1770.0	1750.6	1723.3	1703.9	1696.1	1684.4	1661.1	1649.5	1633.9	1626.1	1610.5
40°	1602.7	1583.3	1563.9	1552.2	1540.5	1532.7	1517.1	1505.4	1489.9	1478.2	1474.3
42.5°	1439.4	1427.7	1412.2	1396.6	1392.6	1381.1	1373.2	1361.5	1349.8	1346.0	1334.3
45°	1291.5	1279.8	1264.3	1248.7	1244.9	1237.0	1233.2	1221.5	1213.8	1213.8	1213.8
47.5°	1143.7	1132.1	1116.5	1108.7	1112.5	1097.0	1097.0	1093.1	1085.3	1085.3	1089.3
50°	1011.4	995.9	992.0	984.2	976.5	968.6	972.5	960.9	960.9	968.6	964.8
52.5°	886.9	871.4	867.5	859.7	855.8	855.8	852.0	852.0	848.1	852.0	852.0
55°	774.1	762.4	754.7	746.9	743.0	743.0	743.0	739.2	735.2	743.0	746.9
57.5°	673.0	669.1	661.3	649.6	645.8	641.9	638.0	638.0	638.0	638.0	641.9
60°	583.6	575.7	568.0	556.3	556.3	552.4	548.5	544.6	544.6	544.6	544.6
62.5°	505.7	494.0	482.3	474.6	470.8	466.8	462.9	455.1	455.1	455.1	455.1
65°	428.0	416.3	408.4	400.7	392.9	392.9	385.1	381.2	373.5	369.5	361.8
67.5°	354.0	346.3	338.4	326.7	322.9	319.0	311.2	307.3	295.6	291.8	287.9
70°	287.9	276.2	268.4	260.7	256.7	249.0	241.2	233.4	225.6	217.9	210.1
72.5°	225.6	213.9	206.2	198.4	190.7	190.7	179.0	171.1	159.5	151.7	140.0
75°	167.3	155.6	147.9	136.2	132.2	128.4	116.7	109.0	97.3	85.6	77.9
77.5°	112.8	105.0	97.3	85.6	77.9	77.9	66.2	58.3	50.6	38.9	35.0
80°	70.0	62.2	54.5	46.6	46.6	38.9	35.0	27.2	19.4	15.5	11.7
82.5°	38.9	35.0	31.1	23.4	23.4	19.4	15.5	11.7	7.8	3.9	3.9
85°	19.4	15.5	11.7	11.7	7.8	7.8	7.8	3.9	3.9	0.0	0.0
87.5°	7.8	3.9	3.9	3.9	3.9	3.9	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



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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7
2.5°	2905.9	2905.9	2902.0	2902.0	2902.0	2898.2	2902.0	2898.2	2898.2	2898.2	2902.0
5°	2890.4	2882.6	2882.6	2878.7	2878.7	2874.8	2878.7	2874.8	2870.9	2867.1	2870.9
7.5°	2859.3	2851.4	2847.6	2843.7	2843.7	2843.7	2839.9	2835.9	2839.9	2828.2	2835.9
10°	2816.5	2812.6	2804.8	2800.9	2797.1	2800.9	2797.1	2789.2	2789.2	2789.2	2785.4
12.5°	2762.0	2754.3	2750.3	2746.4	2738.6	2738.6	2742.6	2734.8	2734.8	2727.0	2727.0
15°	2695.8	2688.1	2680.3	2680.3	2672.6	2672.6	2668.6	2668.6	2664.7	2660.9	2660.9
17.5°	2614.2	2602.5	2594.7	2598.6	2594.7	2590.9	2590.9	2583.0	2579.2	2583.0	2583.0
20°	2517.0	2509.1	2501.3	2505.3	2497.5	2493.6	2497.5	2485.8	2489.7	2489.7	2489.7
22.5°	2408.0	2404.2	2392.5	2392.5	2384.6	2380.8	2384.6	2384.6	2388.5	2384.6	2384.6
25°	2287.4	2279.7	2271.8	2271.8	2268.0	2264.1	2268.0	2271.8	2268.0	2271.8	2271.8
27.5°	2159.0	2147.3	2147.3	2139.6	2139.6	2143.5	2139.6	2143.5	2147.3	2147.3	2155.2
30°	2019.0	2015.1	2011.3	2007.3	2007.3	2011.3	2011.3	2011.3	2015.1	2022.8	2022.8
32.5°	1886.8	1878.9	1871.2	1871.2	1878.9	1875.1	1878.9	1878.9	1886.8	1886.8	1894.5
35°	1742.7	1742.7	1735.0	1738.9	1738.9	1738.9	1738.9	1746.7	1754.4	1758.3	1766.1
37.5°	1610.5	1598.8	1602.7	1602.7	1606.7	1602.7	1614.4	1614.4	1622.2	1622.2	1629.9
40°	1466.6	1466.6	1470.5	1466.6	1470.5	1470.5	1478.2	1486.0	1489.9	1497.7	1501.6
42.5°	1330.4	1338.2	1330.4	1334.3	1338.2	1342.1	1346.0	1349.8	1365.4	1373.2	1384.9
45°	1205.9	1209.8	1213.8	1217.6	1213.8	1221.5	1225.3	1233.2	1244.9	1248.7	1252.6
47.5°	1085.3	1089.3	1093.1	1097.0	1097.0	1104.8	1108.7	1116.5	1124.2	1128.2	1132.1
50°	968.6	976.5	980.3	980.3	984.2	992.0	999.7	999.7	1007.6	1019.3	1023.1
52.5°	863.7	863.7	871.4	875.2	879.2	879.2	890.9	894.8	898.6	906.4	914.2
55°	746.9	758.6	762.4	762.4	770.3	778.1	781.9	785.8	785.8	801.3	801.3
57.5°	645.8	649.6	657.4	657.4	657.4	669.1	669.1	676.9	680.8	684.7	692.4
60°	544.6	552.4	552.4	556.3	552.4	560.2	564.0	571.9	575.7	579.6	583.6
62.5°	451.2	451.2	455.1	455.1	455.1	455.1	462.9	462.9	470.8	474.6	478.5
65°	361.8	361.8	361.8	361.8	361.8	361.8	361.8	361.8	365.7	365.7	373.5
67.5°	280.1	276.2	268.4	272.3	268.4	268.4	264.5	264.5	268.4	268.4	276.2
70°	202.2	198.4	190.7	190.7	186.7	182.8	179.0	175.0	171.1	171.1	171.1
72.5°	132.2	124.5	112.8	109.0	109.0	101.1	93.4	89.4	89.4	89.4	89.4
75°	66.2	58.3	50.6	46.6	46.6	38.9	42.8	38.9	38.9	38.9	38.9
77.5°	27.2	19.4	15.5	15.5	15.5	11.7	11.7	11.7	11.7	11.7	11.7
80°	7.8	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
82.5°	3.9	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: P593800

CATALOG NUMBER: HC850D010-HM82555850-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7	2913.7
2.5°	2898.2	2898.2	2890.4	2894.3	2894.3	2894.3	2894.3	2894.3
5°	2863.1	2867.1	2863.1	2867.1	2867.1	2863.1	2863.1	2863.1
7.5°	2828.2	2832.0	2828.2	2832.0	2832.0	2832.0	2828.2	2828.2
10°	2785.4	2785.4	2785.4	2785.4	2785.4	2781.4	2785.4	2785.4
12.5°	2727.0	2727.0	2727.0	2730.9	2730.9	2727.0	2727.0	2723.1
15°	2664.7	2657.0	2660.9	2664.7	2660.9	2660.9	2660.9	2660.9
17.5°	2579.2	2583.0	2579.2	2579.2	2579.2	2579.2	2583.0	2579.2
20°	2489.7	2489.7	2493.6	2489.7	2489.7	2489.7	2489.7	2485.8
22.5°	2388.5	2384.6	2384.6	2388.5	2388.5	2384.6	2388.5	2388.5
25°	2275.7	2279.7	2275.7	2275.7	2279.7	2279.7	2279.7	2275.7
27.5°	2155.2	2159.0	2162.9	2159.0	2159.0	2159.0	2162.9	2166.9
30°	2030.7	2038.4	2030.7	2030.7	2038.4	2034.5	2038.4	2038.4
32.5°	1898.3	1910.0	1902.3	1910.0	1910.0	1914.0	1910.0	1914.0
35°	1766.1	1777.8	1777.8	1777.8	1781.7	1785.5	1785.5	1781.7
37.5°	1641.6	1645.5	1645.5	1653.3	1657.2	1661.1	1661.1	1657.2
40°	1513.3	1521.1	1525.0	1525.0	1525.0	1532.7	1540.5	1532.7
42.5°	1388.8	1392.6	1396.6	1396.6	1404.3	1408.2	1412.2	1412.2
45°	1268.1	1276.0	1279.8	1283.8	1287.7	1295.4	1291.5	1299.3
47.5°	1143.7	1155.3	1159.3	1163.2	1171.0	1174.8	1178.7	1182.6
50°	1030.9	1038.7	1038.7	1046.5	1058.2	1058.2	1065.9	1069.8
52.5°	918.1	922.0	925.8	929.7	937.5	945.3	945.3	953.1
55°	809.2	813.0	813.0	816.9	820.9	836.4	840.3	840.3
57.5°	696.4	696.4	704.1	708.1	711.9	719.6	719.6	719.6
60°	587.4	591.3	591.3	595.1	599.1	606.8	610.8	606.8
62.5°	478.5	482.3	482.3	486.3	494.0	498.0	494.0	494.0
65°	377.4	381.2	381.2	385.1	392.9	392.9	389.0	392.9
67.5°	276.2	276.2	276.2	276.2	276.2	276.2	276.2	276.2
70°	175.0	171.1	167.3	171.1	171.1	171.1	167.3	175.0
72.5°	85.6	89.4	89.4	89.4	89.4	89.4	89.4	85.6
75°	38.9	38.9	35.0	35.0	35.0	38.9	38.9	35.0
77.5°	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
80°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
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)