

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: P584820

Luminaire Tested: **HC850D010-HM82555835-81RWWC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584820  
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-HM82555835-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5113.1 lumens  
Efficiency: N/A  
Efficacy: 106.5 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

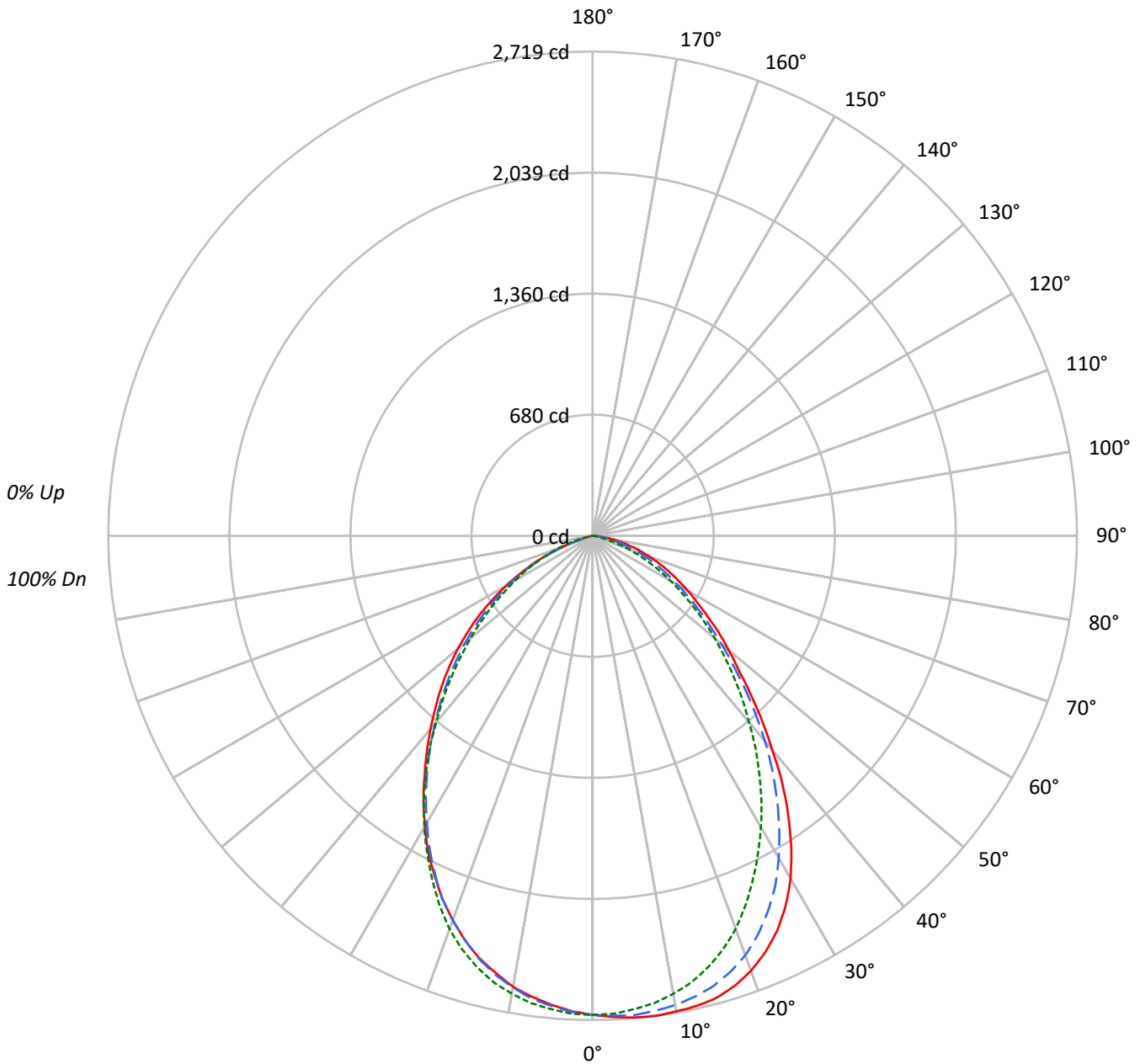
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	82959	82959	82959
5°	84056	82607	81830
10°	84912	81765	80528
15°	85770	80040	78431
20°	85333	77086	75318
25°	83345	72468	71495
30°	79164	67272	67015
35°	72070	61383	61925
40°	63183	54943	56967
45°	54511	48868	52314
50°	47728	42907	47388
55°	42289	36886	41714
60°	38101	31015	34555
65°	34330	24896	26464
70°	30113	18140	14579
75°	25687	9412	3860
80°	19765	2557	639
85°	12702	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	253.8	5.0
10°-20°	713.6	14.0
20°-30°	1012.8	19.8
30°-40°	1066.1	20.9
40°-50°	906.9	17.7
50°-60°	655.4	12.8
60°-70°	372.8	7.3
70°-80°	117.5	2.3
80°-90°	14.3	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°	1980.2	38.7
0°-40°	3046.3	59.6
0°-60°	4608.6	90.1
0°-90°	5113.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5113.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2690	2690	2690	2690	2690	
5°	2716	2701	2669	2651	2644	259
15°	2687	2618	2507	2460	2457	757
25°	2450	2328	2130	2094	2101	1122
35°	1914	1803	1631	1620	1645	1191
45°	1250	1203	1121	1149	1200	972
55°	787	729	686	726	776	709
65°	470	406	341	338	363	467
75°	216	165	79	36	32	232
85°	36	22	0	0	0	46
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°	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3
2.5°	2704.6	2708.2	2701.1	2701.1	2708.2	2701.1	2704.6	2704.6	2701.1	2701.1	2697.5
5°	2715.5	2711.8	2711.8	2711.8	2715.5	2708.2	2704.6	2708.2	2701.1	2701.1	2701.1
7.5°	2719.0	2719.0	2715.5	2711.8	2711.8	2711.8	2708.2	2704.6	2701.1	2693.8	2690.3
10°	2711.8	2711.8	2715.5	2708.2	2708.2	2701.1	2701.1	2693.8	2693.8	2686.7	2676.0
12.5°	2704.6	2701.1	2701.1	2693.8	2693.8	2686.7	2686.7	2676.0	2672.3	2661.6	2650.8
15°	2686.7	2683.1	2676.0	2672.3	2668.7	2665.1	2658.0	2654.3	2643.6	2629.2	2618.4
17.5°	2650.8	2647.2	2643.6	2636.4	2629.2	2625.6	2622.1	2611.3	2596.9	2586.1	2568.2
20°	2600.4	2596.9	2596.9	2586.1	2582.6	2571.8	2568.2	2553.8	2543.0	2521.4	2507.2
22.5°	2532.3	2535.8	2528.7	2521.4	2514.3	2503.5	2496.3	2481.9	2464.0	2442.4	2424.5
25°	2449.6	2453.3	2446.0	2438.9	2428.1	2420.9	2413.8	2392.1	2374.2	2349.1	2327.5
27.5°	2345.5	2345.5	2345.5	2338.2	2320.3	2316.7	2309.6	2288.0	2262.8	2241.3	2219.7
30°	2223.3	2219.7	2219.7	2208.9	2201.8	2187.4	2176.7	2158.7	2140.7	2115.5	2090.4
32.5°	2076.0	2079.7	2068.9	2061.8	2050.9	2050.9	2036.5	2022.3	2000.6	1975.5	1950.4
35°	1914.5	1918.0	1910.8	1907.2	1889.3	1885.7	1882.1	1864.2	1849.8	1831.8	1803.1
37.5°	1749.2	1745.7	1742.0	1742.0	1731.3	1724.0	1716.9	1706.2	1684.5	1670.2	1655.9
40°	1569.6	1569.6	1569.6	1566.0	1562.5	1555.2	1551.6	1544.5	1530.1	1515.7	1505.0
42.5°	1407.9	1407.9	1404.4	1400.8	1393.7	1397.2	1390.1	1382.8	1368.4	1357.7	1350.5
45°	1250.0	1250.0	1250.0	1253.5	1246.4	1235.6	1235.6	1228.4	1221.3	1214.0	1203.3
47.5°	1109.8	1120.6	1113.5	1109.8	1113.5	1099.1	1099.1	1092.0	1084.7	1077.6	1063.2
50°	994.9	994.9	994.9	987.8	984.2	984.2	973.4	966.2	962.6	955.4	941.0
52.5°	890.8	883.6	883.6	880.0	876.4	869.3	869.3	862.0	847.6	840.5	829.8
55°	786.6	786.6	783.0	779.4	775.9	772.2	768.6	757.9	750.7	739.9	729.1
57.5°	693.2	700.5	696.8	689.6	682.5	682.5	675.2	668.1	657.3	646.6	635.7
60°	617.8	614.2	614.2	610.6	603.4	599.8	596.2	585.4	574.7	563.9	553.2
62.5°	538.8	538.8	538.8	531.5	524.4	520.8	517.2	510.0	495.7	484.9	477.8
65°	470.5	466.9	463.4	459.8	456.1	449.0	445.4	438.3	427.4	416.6	405.9
67.5°	402.3	398.7	398.7	395.1	384.4	380.7	380.7	370.0	359.2	348.4	337.6
70°	334.0	334.0	334.0	326.9	323.2	319.7	316.1	308.8	298.1	287.3	276.6
72.5°	276.6	273.0	273.0	269.3	258.6	255.1	251.5	244.2	233.4	226.3	219.1
75°	215.6	215.6	211.9	208.3	204.7	201.2	197.6	190.3	179.6	168.8	165.2
77.5°	165.2	161.7	161.7	158.0	150.8	147.3	147.3	140.0	129.3	122.2	114.9
80°	111.3	114.9	111.3	107.8	104.2	100.5	97.0	93.4	86.2	79.0	71.9
82.5°	68.3	71.9	68.3	68.3	64.6	61.0	61.0	53.9	50.3	46.6	43.1
85°	35.9	35.9	35.9	35.9	32.4	32.4	32.4	28.8	25.1	21.5	21.5
87.5°	10.8	14.4	10.8	10.8	10.8	10.8	10.8	10.8	7.1	7.1	7.1
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°	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3
2.5°	2701.1	2697.5	2693.8	2693.8	2693.8	2693.8	2693.8	2690.3	2686.7	2686.7	2686.7
5°	2693.8	2693.8	2693.8	2690.3	2686.7	2686.7	2679.5	2676.0	2672.3	2668.7	2665.1
7.5°	2686.7	2679.5	2676.0	2672.3	2668.7	2668.7	2661.6	2654.3	2654.3	2647.2	2640.0
10°	2665.1	2661.6	2654.3	2647.2	2643.6	2640.0	2632.8	2622.1	2618.4	2611.3	2604.1
12.5°	2640.0	2632.8	2625.6	2611.3	2607.7	2604.1	2589.7	2578.9	2571.8	2568.2	2550.2
15°	2607.7	2593.3	2582.6	2564.6	2560.9	2553.8	2543.0	2532.3	2517.9	2507.2	2499.9
17.5°	2550.2	2535.8	2517.9	2499.9	2492.8	2492.8	2474.8	2460.4	2442.4	2435.3	2420.9
20°	2481.9	2464.0	2449.6	2428.1	2417.3	2406.5	2395.7	2374.2	2359.9	2349.1	2331.1
22.5°	2402.9	2377.7	2359.9	2338.2	2320.3	2309.6	2291.6	2273.6	2255.7	2244.9	2230.6
25°	2302.3	2280.8	2252.1	2230.6	2219.7	2205.4	2183.8	2165.9	2147.9	2129.9	2122.8
27.5°	2191.1	2162.3	2137.2	2112.0	2101.3	2090.4	2065.3	2043.8	2029.4	2011.4	2004.3
30°	2068.9	2040.1	2011.4	1989.9	1979.1	1961.1	1946.7	1921.6	1903.7	1889.3	1871.3
32.5°	1928.8	1907.2	1882.1	1849.8	1842.6	1828.2	1806.7	1795.9	1774.3	1763.6	1749.2
35°	1777.9	1763.6	1738.4	1713.3	1702.5	1695.4	1677.4	1655.9	1641.5	1630.6	1623.5
37.5°	1634.3	1616.4	1591.1	1573.2	1566.0	1555.2	1533.7	1523.0	1508.6	1501.3	1487.0
40°	1479.8	1461.8	1443.9	1433.2	1422.3	1415.2	1400.8	1390.1	1375.7	1364.9	1361.3
42.5°	1328.9	1318.2	1303.8	1289.5	1285.9	1275.1	1267.9	1257.1	1246.4	1242.8	1232.0
45°	1192.5	1181.7	1167.4	1153.0	1149.4	1142.2	1138.6	1127.9	1120.6	1120.6	1120.6
47.5°	1056.0	1045.2	1030.8	1023.7	1027.3	1012.9	1012.9	1009.3	1002.1	1002.1	1005.7
50°	933.9	919.5	915.9	908.8	901.5	894.4	897.9	887.2	887.2	894.4	890.8
52.5°	818.9	804.6	801.0	793.8	790.2	790.2	786.6	786.6	783.0	786.6	786.6
55°	714.7	704.0	696.8	689.6	686.1	686.1	686.1	682.5	678.8	686.1	689.6
57.5°	621.4	617.8	610.6	599.8	596.2	592.7	589.1	589.1	589.1	589.1	592.7
60°	538.8	531.5	524.4	513.7	513.7	510.0	506.4	502.9	502.9	502.9	502.9
62.5°	466.9	456.1	445.4	438.3	434.6	431.0	427.4	420.3	420.3	420.3	420.3
65°	395.1	384.4	377.1	370.0	362.7	362.7	355.6	352.0	344.9	341.2	334.0
67.5°	326.9	319.7	312.5	301.7	298.1	294.6	287.3	283.7	273.0	269.3	265.8
70°	265.8	255.1	247.8	240.7	237.1	229.8	222.7	215.6	208.3	201.2	193.9
72.5°	208.3	197.6	190.3	183.2	176.1	176.1	165.2	158.0	147.3	140.0	129.3
75°	154.4	143.7	136.5	125.7	122.2	118.5	107.8	100.5	89.8	79.0	71.9
77.5°	104.2	97.0	89.8	79.0	71.9	71.9	61.0	53.9	46.6	35.9	32.4
80°	64.6	57.5	50.3	43.1	43.1	35.9	32.4	25.1	18.0	14.4	10.8
82.5°	35.9	32.4	28.8	21.5	21.5	18.0	14.4	10.8	7.1	3.6	3.6
85°	18.0	14.4	10.8	10.8	7.1	7.1	7.1	3.6	3.6	0.0	0.0
87.5°	7.1	3.6	3.6	3.6	3.6	3.6	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°	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3
2.5°	2683.1	2683.1	2679.5	2679.5	2679.5	2676.0	2679.5	2676.0	2676.0	2676.0	2679.5
5°	2668.7	2661.6	2661.6	2658.0	2658.0	2654.3	2658.0	2654.3	2650.8	2647.2	2650.8
7.5°	2640.0	2632.8	2629.2	2625.6	2625.6	2625.6	2622.1	2618.4	2622.1	2611.3	2618.4
10°	2600.4	2596.9	2589.7	2586.1	2582.6	2586.1	2582.6	2575.3	2575.3	2575.3	2571.8
12.5°	2550.2	2543.0	2539.4	2535.8	2528.7	2528.7	2532.3	2525.0	2525.0	2517.9	2517.9
15°	2489.2	2481.9	2474.8	2474.8	2467.6	2467.6	2464.0	2464.0	2460.4	2456.8	2456.8
17.5°	2413.8	2402.9	2395.7	2399.4	2395.7	2392.1	2392.1	2385.0	2381.4	2385.0	2385.0
20°	2323.9	2316.7	2309.6	2313.1	2306.0	2302.3	2306.0	2295.2	2298.7	2298.7	2298.7
22.5°	2223.3	2219.7	2208.9	2208.9	2201.8	2198.2	2201.8	2201.8	2205.4	2201.8	2201.8
25°	2112.0	2104.8	2097.7	2097.7	2094.0	2090.4	2094.0	2097.7	2094.0	2097.7	2097.7
27.5°	1993.5	1982.7	1982.7	1975.5	1975.5	1979.1	1975.5	1979.1	1982.7	1982.7	1989.9
30°	1864.2	1860.6	1857.0	1853.3	1853.3	1857.0	1857.0	1857.0	1860.6	1867.7	1867.7
32.5°	1742.0	1734.8	1727.7	1727.7	1734.8	1731.3	1734.8	1734.8	1742.0	1742.0	1749.2
35°	1609.1	1609.1	1602.0	1605.5	1605.5	1605.5	1605.5	1612.8	1619.9	1623.5	1630.6
37.5°	1487.0	1476.2	1479.8	1479.8	1483.5	1479.8	1490.6	1490.6	1497.8	1497.8	1505.0
40°	1354.2	1354.2	1357.7	1354.2	1357.7	1357.7	1364.9	1372.1	1375.7	1382.8	1386.4
42.5°	1228.4	1235.6	1228.4	1232.0	1235.6	1239.1	1242.8	1246.4	1260.8	1267.9	1278.7
45°	1113.5	1117.1	1120.6	1124.2	1120.6	1127.9	1131.5	1138.6	1149.4	1153.0	1156.6
47.5°	1002.1	1005.7	1009.3	1012.9	1012.9	1020.1	1023.7	1030.8	1038.1	1041.6	1045.2
50°	894.4	901.5	905.2	905.2	908.8	915.9	923.0	923.0	930.3	941.0	944.7
52.5°	797.4	797.4	804.6	808.1	811.8	811.8	822.5	826.1	829.8	836.9	844.1
55°	689.6	700.5	704.0	704.0	711.2	718.4	722.0	725.6	725.6	739.9	739.9
57.5°	596.2	599.8	607.1	607.1	607.1	617.8	617.8	624.9	628.6	632.2	639.3
60°	502.9	510.0	510.0	513.7	510.0	517.2	520.8	528.0	531.5	535.2	538.8
62.5°	416.6	416.6	420.3	420.3	420.3	420.3	427.4	427.4	434.6	438.3	441.8
65°	334.0	334.0	334.0	334.0	334.0	334.0	334.0	334.0	337.6	337.6	344.9
67.5°	258.6	255.1	247.8	251.5	247.8	247.8	244.2	244.2	247.8	247.8	255.1
70°	186.8	183.2	176.1	176.1	172.4	168.8	165.2	161.7	158.0	158.0	158.0
72.5°	122.2	114.9	104.2	100.5	100.5	93.4	86.2	82.6	82.6	82.6	82.6
75°	61.0	53.9	46.6	43.1	43.1	35.9	39.5	35.9	35.9	35.9	35.9
77.5°	25.1	18.0	14.4	14.4	14.4	10.8	10.8	10.8	10.8	10.8	10.8
80°	7.1	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
82.5°	3.6	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: P584820

CATALOG NUMBER: HC850D010-HM82555835-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3	2690.3
2.5°	2676.0	2676.0	2668.7	2672.3	2672.3	2672.3	2672.3	2672.3
5°	2643.6	2647.2	2643.6	2647.2	2647.2	2643.6	2643.6	2643.6
7.5°	2611.3	2614.8	2611.3	2614.8	2614.8	2614.8	2611.3	2611.3
10°	2571.8	2571.8	2571.8	2571.8	2571.8	2568.2	2571.8	2571.8
12.5°	2517.9	2517.9	2517.9	2521.4	2521.4	2517.9	2517.9	2514.3
15°	2460.4	2453.3	2456.8	2460.4	2456.8	2456.8	2456.8	2456.8
17.5°	2381.4	2385.0	2381.4	2381.4	2381.4	2381.4	2385.0	2381.4
20°	2298.7	2298.7	2302.3	2298.7	2298.7	2298.7	2298.7	2295.2
22.5°	2205.4	2201.8	2201.8	2205.4	2205.4	2201.8	2205.4	2205.4
25°	2101.3	2104.8	2101.3	2101.3	2104.8	2104.8	2104.8	2101.3
27.5°	1989.9	1993.5	1997.0	1993.5	1993.5	1993.5	1997.0	2000.6
30°	1875.0	1882.1	1875.0	1875.0	1882.1	1878.6	1882.1	1882.1
32.5°	1752.8	1763.6	1756.4	1763.6	1763.6	1767.2	1763.6	1767.2
35°	1630.6	1641.5	1641.5	1641.5	1645.0	1648.6	1648.6	1645.0
37.5°	1515.7	1519.3	1519.3	1526.5	1530.1	1533.7	1533.7	1530.1
40°	1397.2	1404.4	1407.9	1407.9	1407.9	1415.2	1422.3	1415.2
42.5°	1282.3	1285.9	1289.5	1289.5	1296.7	1300.3	1303.8	1303.8
45°	1171.0	1178.1	1181.7	1185.2	1188.9	1196.1	1192.5	1199.6
47.5°	1056.0	1066.8	1070.3	1074.0	1081.1	1084.7	1088.3	1092.0
50°	951.8	959.0	959.0	966.2	976.9	976.9	984.2	987.8
52.5°	847.6	851.3	854.9	858.4	865.6	872.8	872.8	880.0
55°	747.1	750.7	750.7	754.2	757.9	772.2	775.9	775.9
57.5°	643.0	643.0	650.1	653.7	657.3	664.5	664.5	664.5
60°	542.4	545.9	545.9	549.5	553.2	560.3	563.9	560.3
62.5°	441.8	445.4	445.4	449.0	456.1	459.8	456.1	456.1
65°	348.4	352.0	352.0	355.6	362.7	362.7	359.2	362.7
67.5°	255.1	255.1	255.1	255.1	255.1	255.1	255.1	255.1
70°	161.7	158.0	154.4	158.0	158.0	158.0	154.4	161.7
72.5°	79.0	82.6	82.6	82.6	82.6	82.6	82.6	79.0
75°	35.9	35.9	32.4	32.4	32.4	35.9	35.9	32.4
77.5°	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
80°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
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)