

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: P584871

Luminaire Tested: **HC850D010-HM82555930-81RWWC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584871  
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-HM82555930-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4742.5 lumens  
Efficiency: N/A  
Efficacy: 98.8 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

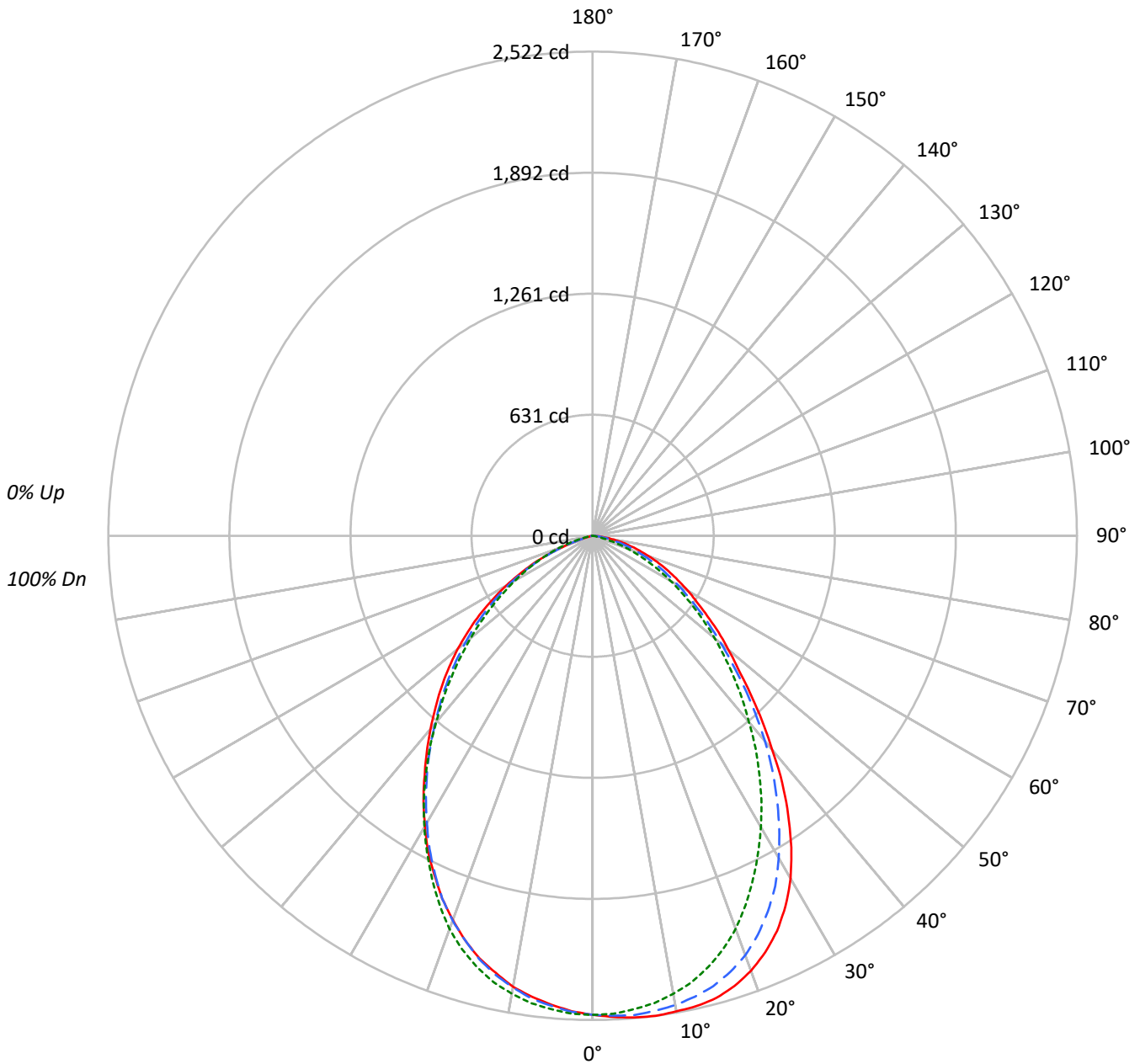
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

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

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

	0°	90°	180°
0°	76946	76946	76946
5°	77964	76624	75903
10°	78759	75841	74695
15°	79558	74239	72749
20°	79154	71501	69861
25°	77310	67218	66313
30°	73428	62397	62162
35°	66845	56941	57441
40°	58606	50962	52841
45°	50560	45332	48528
50°	44269	39793	43948
55°	39224	34208	38687
60°	35338	28764	32051
65°	31842	23086	24545
70°	27931	16824	13515
75°	23817	8733	3562
80°	18326	2362	586
85°	11782	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	235.4	5.0
10°-20°	661.9	14.0
20°-30°	939.4	19.8
30°-40°	988.9	20.9
40°-50°	841.2	17.7
50°-60°	607.9	12.8
60°-70°	345.7	7.3
70°-80°	108.9	2.3
80°-90°	13.2	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°	1836.7	38.7
0°-40°	2825.6	59.6
0°-60°	4274.7	90.1
0°-90°	4742.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4742.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2495	2495	2495	2495	2495	
5°	2519	2505	2475	2459	2452	240
15°	2492	2429	2326	2282	2279	702
25°	2272	2159	1976	1942	1949	1041
35°	1776	1672	1513	1502	1526	1105
45°	1159	1116	1040	1066	1113	901
55°	730	676	636	673	720	658
65°	436	376	316	313	336	433
75°	200	153	73	33	30	215
85°	33	20	0	0	0	43
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°	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3
2.5°	2508.7	2512.1	2505.4	2505.4	2512.1	2505.4	2508.7	2508.7	2505.4	2505.4	2502.0
5°	2518.7	2515.3	2515.3	2515.3	2518.7	2512.1	2508.7	2512.1	2505.4	2505.4	2505.4
7.5°	2522.0	2522.0	2518.7	2515.3	2515.3	2515.3	2512.1	2508.7	2505.4	2498.7	2495.3
10°	2515.3	2515.3	2518.7	2512.1	2512.1	2505.4	2505.4	2498.7	2498.7	2492.1	2482.0
12.5°	2508.7	2505.4	2505.4	2498.7	2498.7	2492.1	2492.1	2482.0	2478.7	2468.7	2458.8
15°	2492.1	2488.7	2482.0	2478.7	2475.4	2472.1	2465.4	2462.0	2452.1	2438.8	2428.7
17.5°	2458.8	2455.4	2452.1	2445.4	2438.8	2435.4	2432.1	2422.1	2408.7	2398.8	2382.1
20°	2412.1	2408.7	2408.7	2398.8	2395.4	2385.5	2382.1	2368.7	2358.8	2338.8	2325.5
22.5°	2348.8	2352.1	2345.5	2338.8	2332.2	2322.1	2315.4	2302.1	2285.5	2265.5	2248.8
25°	2272.2	2275.5	2268.8	2262.1	2252.2	2245.5	2238.9	2218.9	2202.2	2178.9	2158.9
27.5°	2175.5	2175.5	2175.5	2168.8	2152.2	2148.9	2142.2	2122.2	2098.9	2078.9	2059.0
30°	2062.2	2059.0	2059.0	2048.9	2042.2	2028.9	2019.0	2002.3	1985.7	1962.3	1939.0
32.5°	1925.7	1929.0	1919.0	1912.4	1902.3	1902.3	1889.0	1875.7	1855.7	1832.4	1809.0
35°	1775.7	1779.1	1772.4	1769.0	1752.4	1749.1	1745.8	1729.1	1715.7	1699.1	1672.5
37.5°	1622.5	1619.2	1615.8	1615.8	1605.9	1599.2	1592.5	1582.5	1562.5	1549.2	1535.8
40°	1455.9	1455.9	1455.9	1452.6	1449.2	1442.5	1439.3	1432.6	1419.3	1406.0	1395.9
42.5°	1306.0	1306.0	1302.6	1299.3	1292.7	1296.0	1289.3	1282.6	1269.3	1259.4	1252.7
45°	1159.4	1159.4	1159.4	1162.7	1156.0	1146.1	1146.1	1139.4	1132.8	1126.1	1116.0
47.5°	1029.4	1039.5	1032.8	1029.4	1032.8	1019.5	1019.5	1012.8	1006.2	999.5	986.2
50°	922.8	922.8	922.8	916.1	912.9	912.9	902.8	896.2	892.9	886.2	872.9
52.5°	826.2	819.6	819.6	816.2	812.9	806.3	806.3	799.6	786.3	779.6	769.6
55°	729.6	729.6	726.3	722.9	719.6	716.2	713.0	702.9	696.3	686.3	676.3
57.5°	643.0	649.6	646.3	639.7	633.0	633.0	626.4	619.7	609.6	599.7	589.6
60°	573.0	569.7	569.7	566.4	559.7	556.3	553.1	543.0	533.1	523.0	513.1
62.5°	499.7	499.7	499.7	493.1	486.4	483.0	479.8	473.1	459.8	449.7	443.1
65°	436.4	433.1	429.7	426.5	423.1	416.4	413.1	406.5	396.4	386.5	376.4
67.5°	373.1	369.8	369.8	366.5	356.4	353.2	353.2	343.1	333.2	323.1	313.2
70°	309.8	309.8	309.8	303.1	299.8	296.5	293.2	286.5	276.5	266.5	256.5
72.5°	256.5	253.2	253.2	249.8	239.9	236.5	233.2	226.6	216.5	209.8	203.2
75°	199.9	199.9	196.5	193.2	189.8	186.6	183.2	176.5	166.6	156.5	153.3
77.5°	153.3	149.9	149.9	146.6	139.9	136.5	136.5	129.9	119.9	113.3	106.6
80°	103.2	106.6	103.2	99.9	96.6	93.3	89.9	86.6	80.0	73.3	66.6
82.5°	63.2	66.6	63.2	63.2	60.0	56.6	56.6	49.9	46.6	43.3	40.0
85°	33.3	33.3	33.3	33.3	29.9	29.9	29.9	26.7	23.3	20.0	20.0
87.5°	9.9	13.3	9.9	9.9	9.9	9.9	9.9	9.9	6.7	6.7	6.7
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3
2.5°	2505.4	2502.0	2498.7	2498.7	2498.7	2498.7	2498.7	2495.3	2492.1	2492.1	2492.1
5°	2498.7	2498.7	2498.7	2495.3	2492.1	2492.1	2485.4	2482.0	2478.7	2475.4	2472.1
7.5°	2492.1	2485.4	2482.0	2478.7	2475.4	2475.4	2468.7	2462.0	2462.0	2455.4	2448.7
10°	2472.1	2468.7	2462.0	2455.4	2452.1	2448.7	2442.0	2432.1	2428.7	2422.1	2415.4
12.5°	2448.7	2442.0	2435.4	2422.1	2418.8	2415.4	2402.1	2392.1	2385.5	2382.1	2365.5
15°	2418.8	2405.5	2395.4	2378.8	2375.4	2368.7	2358.8	2348.8	2335.4	2325.5	2318.8
17.5°	2365.5	2352.1	2335.4	2318.8	2312.2	2312.2	2295.4	2282.1	2265.5	2258.9	2245.5
20°	2302.1	2285.5	2272.2	2252.2	2242.1	2232.2	2222.2	2202.2	2188.8	2178.9	2162.2
22.5°	2228.8	2205.6	2188.8	2168.8	2152.2	2142.2	2125.6	2108.9	2092.3	2082.2	2068.9
25°	2135.5	2115.5	2088.9	2068.9	2059.0	2045.6	2025.6	2008.9	1992.3	1975.6	1968.9
27.5°	2032.3	2005.7	1982.3	1959.0	1949.0	1939.0	1915.6	1895.7	1882.3	1865.7	1859.1
30°	1919.0	1892.4	1865.7	1845.7	1835.7	1819.1	1805.8	1782.4	1765.8	1752.4	1735.7
32.5°	1789.0	1769.0	1745.8	1715.7	1709.1	1695.8	1675.8	1665.8	1645.8	1635.8	1622.5
35°	1649.1	1635.8	1612.5	1589.1	1579.2	1572.5	1555.8	1535.8	1522.5	1512.6	1505.9
37.5°	1515.8	1499.2	1475.9	1459.3	1452.6	1442.5	1422.6	1412.6	1399.3	1392.6	1379.3
40°	1372.6	1355.9	1339.3	1329.3	1319.3	1312.7	1299.3	1289.3	1276.0	1266.0	1262.6
42.5°	1232.7	1222.7	1209.3	1196.0	1192.7	1182.7	1176.0	1166.1	1156.0	1152.8	1142.7
45°	1106.1	1096.1	1082.7	1069.4	1066.1	1059.5	1056.1	1046.1	1039.5	1039.5	1039.5
47.5°	979.5	969.5	956.1	949.5	952.9	939.5	939.5	936.1	929.5	929.5	932.9
50°	866.2	852.9	849.5	842.8	836.2	829.5	832.9	822.9	822.9	829.5	826.2
52.5°	759.6	746.3	742.9	736.2	733.0	733.0	729.6	729.6	726.3	729.6	729.6
55°	662.9	653.0	646.3	639.7	636.3	636.3	636.3	633.0	629.6	636.3	639.7
57.5°	576.3	573.0	566.4	556.3	553.1	549.7	546.4	546.4	546.4	546.4	549.7
60°	499.7	493.1	486.4	476.4	476.4	473.1	469.7	466.4	466.4	466.4	466.4
62.5°	433.1	423.1	413.1	406.5	403.1	399.8	396.4	389.7	389.7	389.7	389.7
65°	366.5	356.4	349.8	343.1	336.4	336.4	329.8	326.5	319.8	316.4	309.8
67.5°	303.1	296.5	289.8	279.9	276.5	273.2	266.5	263.1	253.2	249.8	246.5
70°	246.5	236.5	229.8	223.2	219.9	213.2	206.6	199.9	193.2	186.6	179.9
72.5°	193.2	183.2	176.5	169.9	163.2	163.2	153.3	146.6	136.5	129.9	119.9
75°	143.2	133.3	126.6	116.5	113.3	109.9	99.9	93.3	83.2	73.3	66.6
77.5°	96.6	89.9	83.2	73.3	66.6	66.6	56.6	49.9	43.3	33.3	29.9
80°	60.0	53.3	46.6	40.0	40.0	33.3	29.9	23.3	16.6	13.3	9.9
82.5°	33.3	29.9	26.7	20.0	20.0	16.6	13.3	9.9	6.7	3.3	3.3
85°	16.6	13.3	9.9	9.9	6.7	6.7	6.7	3.3	3.3	0.0	0.0
87.5°	6.7	3.3	3.3	3.3	3.3	3.3	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°	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3
2.5°	2488.7	2488.7	2485.4	2485.4	2485.4	2482.0	2485.4	2482.0	2482.0	2482.0	2485.4
5°	2475.4	2468.7	2468.7	2465.4	2465.4	2462.0	2465.4	2462.0	2458.8	2455.4	2458.8
7.5°	2448.7	2442.0	2438.8	2435.4	2435.4	2435.4	2432.1	2428.7	2432.1	2422.1	2428.7
10°	2412.1	2408.7	2402.1	2398.8	2395.4	2398.8	2395.4	2388.7	2388.7	2388.7	2385.5
12.5°	2365.5	2358.8	2355.4	2352.1	2345.5	2345.5	2348.8	2342.1	2342.1	2335.4	2335.4
15°	2308.8	2302.1	2295.4	2295.4	2288.8	2288.8	2285.5	2285.5	2282.1	2278.8	2278.8
17.5°	2238.9	2228.8	2222.2	2225.5	2222.2	2218.9	2218.9	2212.2	2208.8	2212.2	2212.2
20°	2155.5	2148.9	2142.2	2145.6	2138.9	2135.5	2138.9	2128.9	2132.3	2132.3	2132.3
22.5°	2062.2	2059.0	2048.9	2048.9	2042.2	2039.0	2042.2	2042.2	2045.6	2042.2	2042.2
25°	1959.0	1952.3	1945.7	1945.7	1942.3	1939.0	1942.3	1945.7	1942.3	1945.7	1945.7
27.5°	1849.0	1839.1	1839.1	1832.4	1832.4	1835.7	1832.4	1835.7	1839.1	1839.1	1845.7
30°	1729.1	1725.8	1722.4	1719.1	1719.1	1722.4	1722.4	1722.4	1725.8	1732.5	1732.5
32.5°	1615.8	1609.1	1602.5	1602.5	1609.1	1605.9	1609.1	1609.1	1615.8	1615.8	1622.5
35°	1492.6	1492.6	1485.9	1489.2	1489.2	1489.2	1489.2	1495.9	1502.5	1505.9	1512.6
37.5°	1379.3	1369.2	1372.6	1372.6	1375.9	1372.6	1382.6	1382.6	1389.2	1389.2	1395.9
40°	1256.0	1256.0	1259.4	1256.0	1259.4	1259.4	1266.0	1272.7	1276.0	1282.6	1286.0
42.5°	1139.4	1146.1	1139.4	1142.7	1146.1	1149.4	1152.8	1156.0	1169.4	1176.0	1186.1
45°	1032.8	1036.1	1039.5	1042.7	1039.5	1046.1	1049.4	1056.1	1066.1	1069.4	1072.8
47.5°	929.5	932.9	936.1	939.5	939.5	946.2	949.5	956.1	962.8	966.2	969.5
50°	829.5	836.2	839.6	839.6	842.8	849.5	856.2	856.2	862.8	872.9	876.2
52.5°	739.6	739.6	746.3	749.6	753.0	753.0	762.9	766.3	769.6	776.2	782.9
55°	639.7	649.6	653.0	653.0	659.7	666.3	669.6	673.0	673.0	686.3	686.3
57.5°	553.1	556.3	563.0	563.0	563.0	573.0	573.0	579.7	583.0	586.4	593.0
60°	466.4	473.1	473.1	476.4	473.1	479.8	483.0	489.7	493.1	496.4	499.7
62.5°	386.5	386.5	389.7	389.7	389.7	389.7	396.4	396.4	403.1	406.5	409.7
65°	309.8	309.8	309.8	309.8	309.8	309.8	309.8	309.8	313.2	313.2	319.8
67.5°	239.9	236.5	229.8	233.2	229.8	229.8	226.6	226.6	229.8	229.8	236.5
70°	173.2	169.9	163.2	163.2	159.9	156.5	153.3	149.9	146.6	146.6	146.6
72.5°	113.3	106.6	96.6	93.3	93.3	86.6	80.0	76.6	76.6	76.6	76.6
75°	56.6	49.9	43.3	40.0	40.0	33.3	36.6	33.3	33.3	33.3	33.3
77.5°	23.3	16.6	13.3	13.3	13.3	9.9	9.9	9.9	9.9	9.9	9.9
80°	6.7	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
82.5°	3.3	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: P584871

CATALOG NUMBER: HC850D010-HM82555930-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3	2495.3
2.5°	2482.0	2482.0	2475.4	2478.7	2478.7	2478.7	2478.7	2478.7
5°	2452.1	2455.4	2452.1	2455.4	2455.4	2452.1	2452.1	2452.1
7.5°	2422.1	2425.4	2422.1	2425.4	2425.4	2425.4	2422.1	2422.1
10°	2385.5	2385.5	2385.5	2385.5	2385.5	2382.1	2385.5	2385.5
12.5°	2335.4	2335.4	2335.4	2338.8	2338.8	2335.4	2335.4	2332.2
15°	2282.1	2275.5	2278.8	2282.1	2278.8	2278.8	2278.8	2278.8
17.5°	2208.8	2212.2	2208.8	2208.8	2208.8	2208.8	2212.2	2208.8
20°	2132.3	2132.3	2135.5	2132.3	2132.3	2132.3	2132.3	2128.9
22.5°	2045.6	2042.2	2042.2	2045.6	2045.6	2042.2	2045.6	2045.6
25°	1949.0	1952.3	1949.0	1949.0	1952.3	1952.3	1952.3	1949.0
27.5°	1845.7	1849.0	1852.4	1849.0	1849.0	1849.0	1852.4	1855.7
30°	1739.1	1745.8	1739.1	1739.1	1745.8	1742.4	1745.8	1745.8
32.5°	1625.8	1635.8	1629.1	1635.8	1635.8	1639.2	1635.8	1639.2
35°	1512.6	1522.5	1522.5	1522.5	1525.9	1529.2	1529.2	1525.9
37.5°	1406.0	1409.2	1409.2	1415.9	1419.3	1422.6	1422.6	1419.3
40°	1296.0	1302.6	1306.0	1306.0	1306.0	1312.7	1319.3	1312.7
42.5°	1189.3	1192.7	1196.0	1196.0	1202.7	1206.1	1209.3	1209.3
45°	1086.1	1092.8	1096.1	1099.4	1102.7	1109.4	1106.1	1112.8
47.5°	979.5	989.4	992.8	996.1	1002.8	1006.2	1009.4	1012.8
50°	882.8	889.5	889.5	896.2	906.2	906.2	912.9	916.1
52.5°	786.3	789.5	792.9	796.2	802.9	809.5	809.5	816.2
55°	693.0	696.3	696.3	699.6	702.9	716.2	719.6	719.6
57.5°	596.3	596.3	603.0	606.4	609.6	616.3	616.3	616.3
60°	503.0	506.4	506.4	509.7	513.1	519.7	523.0	519.7
62.5°	409.7	413.1	413.1	416.4	423.1	426.5	423.1	423.1
65°	323.1	326.5	326.5	329.8	336.4	336.4	333.2	336.4
67.5°	236.5	236.5	236.5	236.5	236.5	236.5	236.5	236.5
70°	149.9	146.6	143.2	146.6	146.6	146.6	143.2	149.9
72.5°	73.3	76.6	76.6	76.6	76.6	76.6	76.6	73.3
75°	33.3	33.3	29.9	29.9	29.9	33.3	33.3	29.9
77.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
80°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
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)