

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: P584803

Luminaire Tested: **HC850D010-HM82555830-81RWWC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584803  
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-HM82555830-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4823.6 lumens  
Efficiency: N/A  
Efficacy: 100.5 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

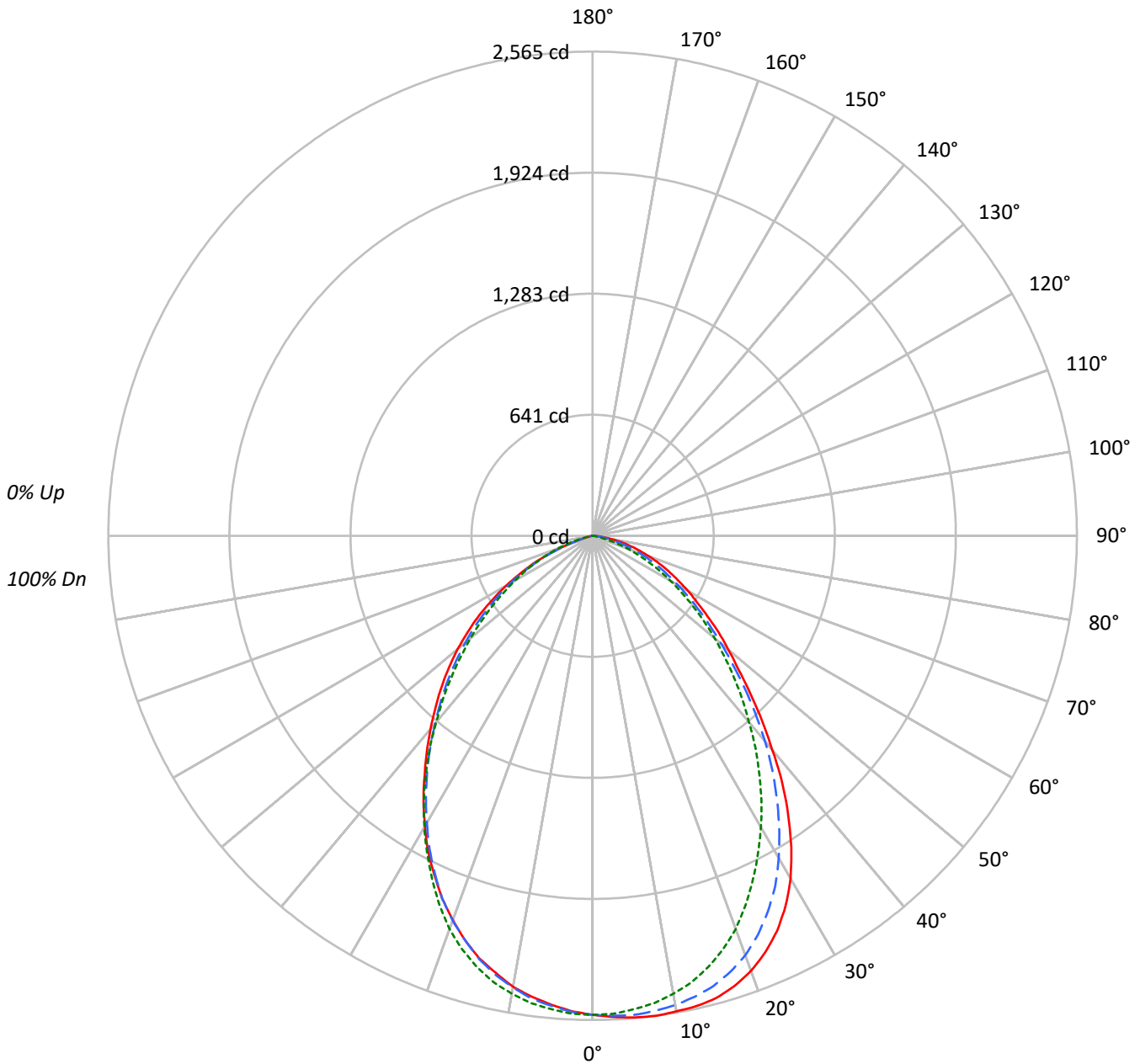
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					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°	78259	78259	78259
5°	79292	77933	77196
10°	80102	77134	75966
15°	80915	75504	73990
20°	80506	72722	71052
25°	78626	68368	67446
30°	74682	63465	63223
35°	67989	57912	58424
40°	59608	51835	53739
45°	51424	46104	49352
50°	45027	40479	44701
55°	39896	34794	39348
60°	35949	29257	32600
65°	32389	23487	24976
70°	28418	17103	13740
75°	24222	8888	3634
80°	18664	2415	604
85°	11994	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	239.5	5.0
10°-20°	673.2	14.0
20°-30°	955.4	19.8
30°-40°	1005.7	20.9
40°-50°	855.6	17.7
50°-60°	618.3	12.8
60°-70°	351.7	7.3
70°-80°	110.8	2.3
80°-90°	13.5	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°	1868.0	38.7
0°-40°	2873.8	59.6
0°-60°	4347.6	90.1
0°-90°	4823.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4823.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2538	2538	2538	2538	2538	
5°	2562	2548	2518	2501	2494	244
15°	2535	2470	2365	2321	2318	714
25°	2311	2196	2009	1976	1982	1058
35°	1806	1701	1538	1528	1552	1124
45°	1179	1135	1057	1084	1132	917
55°	742	688	647	684	732	669
65°	444	383	322	319	342	440
75°	203	156	75	34	30	219
85°	34	20	0	0	0	44
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°	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9
2.5°	2551.5	2554.8	2548.1	2548.1	2554.8	2548.1	2551.5	2551.5	2548.1	2548.1	2544.7
5°	2561.6	2558.2	2558.2	2558.2	2561.6	2554.8	2551.5	2554.8	2548.1	2548.1	2548.1
7.5°	2565.0	2565.0	2561.6	2558.2	2558.2	2558.2	2554.8	2551.5	2548.1	2541.3	2537.9
10°	2558.2	2558.2	2561.6	2554.8	2554.8	2548.1	2548.1	2541.3	2541.3	2534.6	2524.5
12.5°	2551.5	2548.1	2548.1	2541.3	2541.3	2534.6	2534.6	2524.5	2521.1	2510.9	2500.7
15°	2534.6	2531.2	2524.5	2521.1	2517.7	2514.3	2507.5	2504.1	2493.9	2480.4	2470.2
17.5°	2500.7	2497.3	2493.9	2487.2	2480.4	2477.0	2473.6	2463.4	2449.9	2439.7	2422.8
20°	2453.3	2449.9	2449.9	2439.7	2436.3	2426.1	2422.8	2409.2	2399.0	2378.7	2365.1
22.5°	2388.9	2392.2	2385.5	2378.7	2371.9	2361.7	2355.0	2341.4	2324.4	2304.1	2287.3
25°	2310.9	2314.3	2307.5	2300.7	2290.7	2283.9	2277.1	2256.8	2239.8	2216.1	2195.7
27.5°	2212.7	2212.7	2212.7	2205.9	2189.0	2185.6	2178.8	2158.4	2134.7	2114.4	2094.0
30°	2097.4	2094.0	2094.0	2083.9	2077.1	2063.5	2053.5	2036.5	2019.6	1995.8	1972.1
32.5°	1958.5	1961.9	1951.8	1945.0	1934.8	1934.8	1921.3	1907.7	1887.4	1863.6	1839.9
35°	1806.1	1809.5	1802.7	1799.3	1782.4	1779.0	1775.6	1758.6	1745.1	1728.1	1701.0
37.5°	1650.2	1646.8	1643.4	1643.4	1633.2	1626.4	1619.6	1609.5	1589.1	1575.6	1562.1
40°	1480.8	1480.8	1480.8	1477.4	1474.0	1467.2	1463.8	1457.0	1443.5	1429.9	1419.8
42.5°	1328.3	1328.3	1324.9	1321.6	1314.8	1318.2	1311.4	1304.6	1291.0	1280.9	1274.1
45°	1179.2	1179.2	1179.2	1182.6	1175.8	1165.6	1165.6	1158.8	1152.0	1145.3	1135.1
47.5°	1047.1	1057.2	1050.5	1047.1	1050.5	1036.9	1036.9	1030.1	1023.3	1016.6	1003.0
50°	938.6	938.6	938.6	931.8	928.4	928.4	918.2	911.5	908.1	901.3	887.7
52.5°	840.4	833.6	833.6	830.2	826.8	820.1	820.1	813.3	799.7	792.9	782.8
55°	742.1	742.1	738.7	735.3	731.9	728.5	725.1	715.0	708.2	698.0	687.8
57.5°	653.9	660.7	657.3	650.5	643.8	643.8	637.0	630.2	620.0	609.9	599.8
60°	582.9	579.5	579.5	576.1	569.3	565.9	562.5	552.4	542.2	532.0	521.8
62.5°	508.3	508.3	508.3	501.5	494.7	491.3	487.9	481.2	467.6	457.4	450.6
65°	443.9	440.5	437.1	433.7	430.3	423.5	420.1	413.4	403.2	393.0	382.8
67.5°	379.5	376.1	376.1	372.7	362.5	359.2	359.2	349.1	338.9	328.7	318.6
70°	315.2	315.2	315.2	308.4	305.0	301.6	298.2	291.4	281.3	271.1	260.9
72.5°	260.9	257.5	257.5	254.1	244.0	240.6	237.2	230.4	220.2	213.5	206.7
75°	203.3	203.3	199.9	196.5	193.1	189.7	186.3	179.6	169.4	159.2	155.8
77.5°	155.8	152.4	152.4	149.0	142.3	138.9	138.9	132.1	121.9	115.3	108.5
80°	105.1	108.5	105.1	101.7	98.3	94.9	91.5	88.1	81.4	74.6	67.8
82.5°	64.4	67.8	64.4	64.4	61.0	57.6	57.6	50.9	47.5	44.1	40.7
85°	33.9	33.9	33.9	33.9	30.5	30.5	30.5	27.1	23.7	20.3	20.3
87.5°	10.2	13.6	10.2	10.2	10.2	10.2	10.2	10.2	6.8	6.8	6.8
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°	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9
2.5°	2548.1	2544.7	2541.3	2541.3	2541.3	2541.3	2541.3	2537.9	2534.6	2534.6	2534.6
5°	2541.3	2541.3	2541.3	2537.9	2534.6	2534.6	2527.8	2524.5	2521.1	2517.7	2514.3
7.5°	2534.6	2527.8	2524.5	2521.1	2517.7	2517.7	2510.9	2504.1	2504.1	2497.3	2490.6
10°	2514.3	2510.9	2504.1	2497.3	2493.9	2490.6	2483.8	2473.6	2470.2	2463.4	2456.7
12.5°	2490.6	2483.8	2477.0	2463.4	2460.0	2456.7	2443.1	2432.9	2426.1	2422.8	2405.8
15°	2460.0	2446.5	2436.3	2419.4	2416.0	2409.2	2399.0	2388.9	2375.3	2365.1	2358.3
17.5°	2405.8	2392.2	2375.3	2358.3	2351.6	2351.6	2334.6	2321.0	2304.1	2297.3	2283.9
20°	2341.4	2324.4	2310.9	2290.7	2280.5	2270.3	2260.1	2239.8	2226.2	2216.1	2199.1
22.5°	2266.9	2243.2	2226.2	2205.9	2189.0	2178.8	2161.8	2144.9	2127.9	2117.8	2104.2
25°	2172.0	2151.7	2124.5	2104.2	2094.0	2080.5	2060.1	2043.3	2026.3	2009.4	2002.6
27.5°	2066.9	2039.9	2016.2	1992.4	1982.3	1972.1	1948.4	1928.0	1914.5	1897.5	1890.7
30°	1951.8	1924.6	1897.5	1877.2	1867.0	1850.1	1836.5	1812.8	1795.9	1782.4	1765.4
32.5°	1819.5	1799.3	1775.6	1745.1	1738.3	1724.7	1704.4	1694.2	1673.9	1663.7	1650.2
35°	1677.3	1663.7	1640.0	1616.3	1606.1	1599.3	1582.4	1562.1	1548.6	1538.4	1531.6
37.5°	1541.8	1524.8	1501.1	1484.2	1477.4	1467.2	1446.9	1436.7	1423.1	1416.4	1402.8
40°	1396.0	1379.1	1362.1	1351.9	1341.8	1335.0	1321.6	1311.4	1297.8	1287.7	1284.3
42.5°	1253.8	1243.6	1230.0	1216.5	1213.1	1202.9	1196.1	1186.0	1175.8	1172.4	1162.2
45°	1124.9	1114.8	1101.2	1087.6	1084.4	1077.6	1074.2	1064.0	1057.2	1057.2	1057.2
47.5°	996.2	986.1	972.5	965.7	969.1	955.5	955.5	952.2	945.4	945.4	948.8
50°	881.0	867.4	864.0	857.2	850.4	843.8	847.1	837.0	837.0	843.8	840.4
52.5°	772.6	759.0	755.6	748.9	745.5	745.5	742.1	742.1	738.7	742.1	742.1
55°	674.3	664.1	657.3	650.5	647.2	647.2	647.2	643.8	640.4	647.2	650.5
57.5°	586.3	582.9	576.1	565.9	562.5	559.1	555.7	555.7	555.7	555.7	559.1
60°	508.3	501.5	494.7	484.6	484.6	481.2	477.8	474.4	474.4	474.4	474.4
62.5°	440.5	430.3	420.1	413.4	410.0	406.6	403.2	396.4	396.4	396.4	396.4
65°	372.7	362.5	355.8	349.1	342.3	342.3	335.5	332.1	325.3	321.9	315.2
67.5°	308.4	301.6	294.8	284.7	281.3	277.9	271.1	267.7	257.5	254.1	250.8
70°	250.8	240.6	233.8	227.0	223.6	216.8	210.1	203.3	196.5	189.7	182.9
72.5°	196.5	186.3	179.6	172.8	166.0	166.0	155.8	149.0	138.9	132.1	121.9
75°	145.7	135.5	128.7	118.7	115.3	111.9	101.7	94.9	84.8	74.6	67.8
77.5°	98.3	91.5	84.8	74.6	67.8	67.8	57.6	50.9	44.1	33.9	30.5
80°	61.0	54.2	47.5	40.7	40.7	33.9	30.5	23.7	17.0	13.6	10.2
82.5°	33.9	30.5	27.1	20.3	20.3	17.0	13.6	10.2	6.8	3.4	3.4
85°	17.0	13.6	10.2	10.2	6.8	6.8	6.8	3.4	3.4	0.0	0.0
87.5°	6.8	3.4	3.4	3.4	3.4	3.4	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°	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9
2.5°	2531.2	2531.2	2527.8	2527.8	2527.8	2524.5	2527.8	2524.5	2524.5	2524.5	2527.8
5°	2517.7	2510.9	2510.9	2507.5	2507.5	2504.1	2507.5	2504.1	2500.7	2497.3	2500.7
7.5°	2490.6	2483.8	2480.4	2477.0	2477.0	2477.0	2473.6	2470.2	2473.6	2463.4	2470.2
10°	2453.3	2449.9	2443.1	2439.7	2436.3	2439.7	2436.3	2429.5	2429.5	2429.5	2426.1
12.5°	2405.8	2399.0	2395.6	2392.2	2385.5	2385.5	2388.9	2382.1	2382.1	2375.3	2375.3
15°	2348.2	2341.4	2334.6	2334.6	2327.8	2327.8	2324.4	2324.4	2321.0	2317.7	2317.7
17.5°	2277.1	2266.9	2260.1	2263.5	2260.1	2256.8	2256.8	2250.0	2246.6	2250.0	2250.0
20°	2192.3	2185.6	2178.8	2182.2	2175.4	2172.0	2175.4	2165.2	2168.6	2168.6	2168.6
22.5°	2097.4	2094.0	2083.9	2083.9	2077.1	2073.7	2077.1	2077.1	2080.5	2077.1	2077.1
25°	1992.4	1985.7	1978.9	1978.9	1975.5	1972.1	1975.5	1978.9	1975.5	1978.9	1978.9
27.5°	1880.6	1870.4	1870.4	1863.6	1863.6	1867.0	1863.6	1867.0	1870.4	1870.4	1877.2
30°	1758.6	1755.3	1751.9	1748.5	1748.5	1751.9	1751.9	1751.9	1755.3	1762.0	1762.0
32.5°	1643.4	1636.6	1629.8	1629.8	1636.6	1633.2	1636.6	1636.6	1643.4	1643.4	1650.2
35°	1518.1	1518.1	1511.3	1514.7	1514.7	1514.7	1514.7	1521.5	1528.2	1531.6	1538.4
37.5°	1402.8	1392.6	1396.0	1396.0	1399.4	1396.0	1406.2	1406.2	1413.0	1413.0	1419.8
40°	1277.5	1277.5	1280.9	1277.5	1280.9	1280.9	1287.7	1294.4	1297.8	1304.6	1308.0
42.5°	1158.8	1165.6	1158.8	1162.2	1165.6	1169.0	1172.4	1175.8	1189.3	1196.1	1206.3
45°	1050.5	1053.9	1057.2	1060.6	1057.2	1064.0	1067.4	1074.2	1084.4	1087.6	1091.0
47.5°	945.4	948.8	952.2	955.5	955.5	962.3	965.7	972.5	979.3	982.7	986.1
50°	843.8	850.4	853.8	853.8	857.2	864.0	870.8	870.8	877.6	887.7	891.1
52.5°	752.3	752.3	759.0	762.4	765.8	765.8	776.0	779.4	782.8	789.5	796.3
55°	650.5	660.7	664.1	664.1	670.9	677.7	681.1	684.4	684.4	698.0	698.0
57.5°	562.5	565.9	572.7	572.7	572.7	582.9	582.9	589.6	593.0	596.4	603.2
60°	474.4	481.2	481.2	484.6	481.2	487.9	491.3	498.1	501.5	504.9	508.3
62.5°	393.0	393.0	396.4	396.4	396.4	396.4	403.2	403.2	410.0	413.4	416.7
65°	315.2	315.2	315.2	315.2	315.2	315.2	315.2	315.2	318.6	318.6	325.3
67.5°	244.0	240.6	233.8	237.2	233.8	233.8	230.4	230.4	233.8	233.8	240.6
70°	176.2	172.8	166.0	166.0	162.6	159.2	155.8	152.4	149.0	149.0	149.0
72.5°	115.3	108.5	98.3	94.9	94.9	88.1	81.4	78.0	78.0	78.0	78.0
75°	57.6	50.9	44.1	40.7	40.7	33.9	37.3	33.9	33.9	33.9	33.9
77.5°	23.7	17.0	13.6	13.6	13.6	10.2	10.2	10.2	10.2	10.2	10.2
80°	6.8	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
82.5°	3.4	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: P584803

CATALOG NUMBER: HC850D010-HM82555830-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9	2537.9
2.5°	2524.5	2524.5	2517.7	2521.1	2521.1	2521.1	2521.1	2521.1
5°	2493.9	2497.3	2493.9	2497.3	2497.3	2493.9	2493.9	2493.9
7.5°	2463.4	2466.8	2463.4	2466.8	2466.8	2466.8	2463.4	2463.4
10°	2426.1	2426.1	2426.1	2426.1	2426.1	2422.8	2426.1	2426.1
12.5°	2375.3	2375.3	2375.3	2378.7	2378.7	2375.3	2375.3	2371.9
15°	2321.0	2314.3	2317.7	2321.0	2317.7	2317.7	2317.7	2317.7
17.5°	2246.6	2250.0	2246.6	2246.6	2246.6	2246.6	2250.0	2246.6
20°	2168.6	2168.6	2172.0	2168.6	2168.6	2168.6	2168.6	2165.2
22.5°	2080.5	2077.1	2077.1	2080.5	2080.5	2077.1	2080.5	2080.5
25°	1982.3	1985.7	1982.3	1982.3	1985.7	1985.7	1985.7	1982.3
27.5°	1877.2	1880.6	1884.0	1880.6	1880.6	1880.6	1884.0	1887.4
30°	1768.8	1775.6	1768.8	1768.8	1775.6	1772.2	1775.6	1775.6
32.5°	1653.6	1663.7	1656.9	1663.7	1663.7	1667.1	1663.7	1667.1
35°	1538.4	1548.6	1548.6	1548.6	1552.0	1555.4	1555.4	1552.0
37.5°	1429.9	1433.3	1433.3	1440.1	1443.5	1446.9	1446.9	1443.5
40°	1318.2	1324.9	1328.3	1328.3	1328.3	1335.0	1341.8	1335.0
42.5°	1209.7	1213.1	1216.5	1216.5	1223.2	1226.6	1230.0	1230.0
45°	1104.6	1111.4	1114.8	1118.1	1121.5	1128.3	1124.9	1131.7
47.5°	996.2	1006.4	1009.8	1013.2	1020.0	1023.3	1026.7	1030.1
50°	897.9	904.7	904.7	911.5	921.6	921.6	928.4	931.8
52.5°	799.7	803.1	806.5	809.9	816.7	823.4	823.4	830.2
55°	704.8	708.2	708.2	711.6	715.0	728.5	731.9	731.9
57.5°	606.5	606.5	613.3	616.6	620.0	626.8	626.8	626.8
60°	511.7	515.1	515.1	518.5	521.8	528.6	532.0	528.6
62.5°	416.7	420.1	420.1	423.5	430.3	433.7	430.3	430.3
65°	328.7	332.1	332.1	335.5	342.3	342.3	338.9	342.3
67.5°	240.6	240.6	240.6	240.6	240.6	240.6	240.6	240.6
70°	152.4	149.0	145.7	149.0	149.0	149.0	145.7	152.4
72.5°	74.6	78.0	78.0	78.0	78.0	78.0	78.0	74.6
75°	33.9	33.9	30.5	30.5	30.5	33.9	33.9	30.5
77.5°	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
80°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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)