

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: P593734

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593734  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC850D010-HM82555850-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4321.5 lumens  
Efficiency: N/A  
Efficacy: 105.4 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

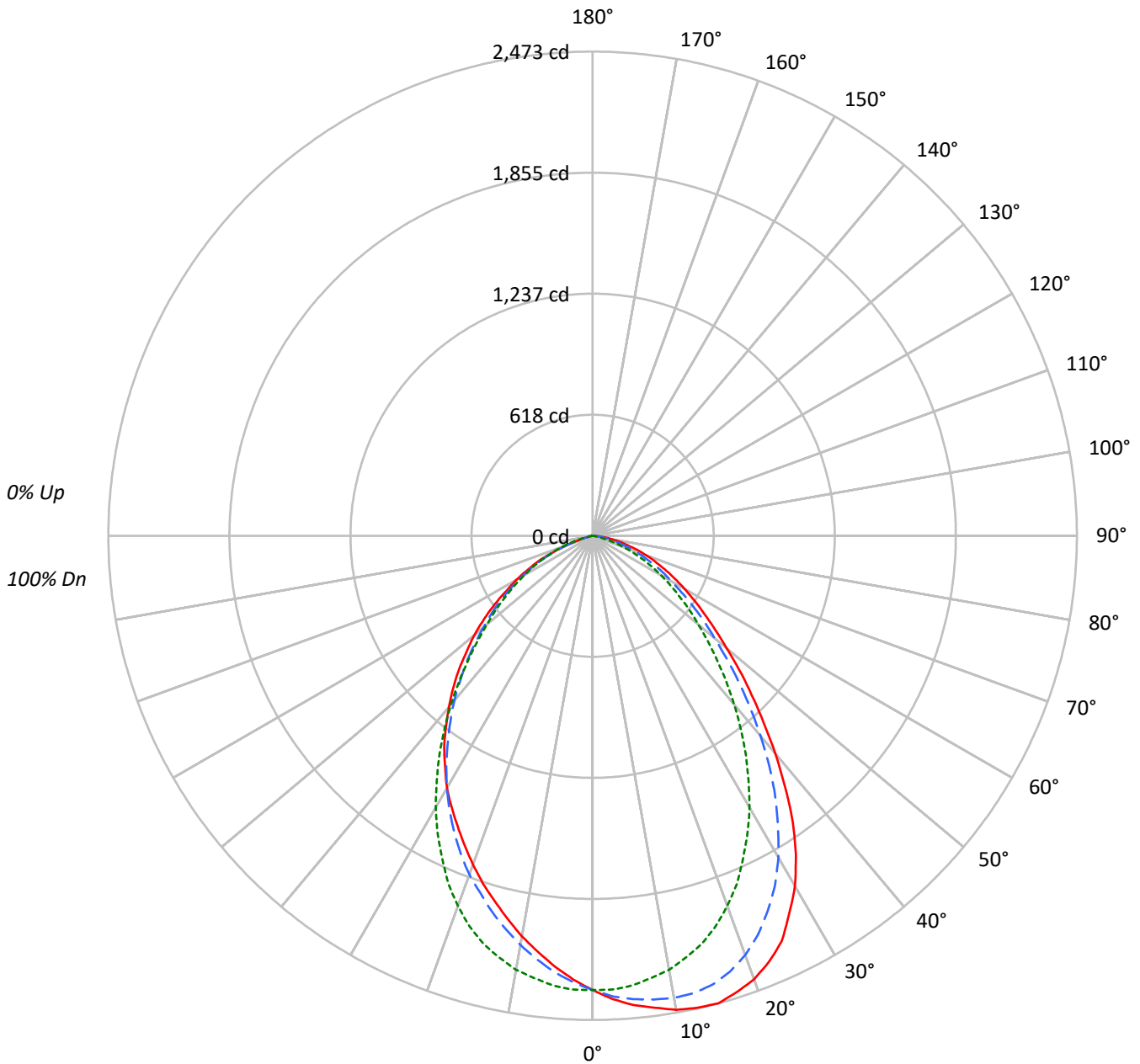
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77			77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			67
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59			59
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53			53
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47			47
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43			43
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39			39
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35			35
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			32

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

	0°	90°	180°
0°	71540	71540	71540
5°	74500	71383	68378
10°	76990	70471	65044
15°	78936	68860	61665
20°	79091	66001	58608
25°	77759	61825	55575
30°	73596	57049	52972
35°	67101	51305	49739
40°	58348	45229	45930
45°	50059	39170	42039
50°	42753	33773	37764
55°	37477	29085	32816
60°	33365	24805	27586
65°	29609	20240	22014
70°	26263	15012	12514
75°	21910	7851	3717
80°	17243	2468	622
85°	12242	1238	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	218.6	5.1
10°-20°	612.7	14.2
20°-30°	867.2	20.1
30°-40°	907.3	21.0
40°-50°	756.8	17.5
50°-60°	536.6	12.4
60°-70°	309.1	7.2
70°-80°	99.5	2.3
80°-90°	13.7	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°	1698.6	39.3
0°-40°	2605.9	60.3
0°-60°	3899.3	90.2
0°-90°	4321.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4321.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2320	2320	2320	2320	2320	
5°	2407	2376	2306	2237	2209	231
15°	2473	2372	2157	1987	1932	695
25°	2285	2116	1817	1672	1633	1043
35°	1782	1626	1363	1290	1321	1105
45°	1148	1054	898	909	964	889
55°	697	624	541	569	610	630
65°	406	340	277	277	302	405
75°	184	135	66	31	31	199
85°	35	17	4	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°	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0
2.5°	2368.6	2365.1	2361.7	2365.1	2361.7	2365.1	2361.7	2361.7	2358.2	2354.7	2354.7
5°	2406.8	2403.2	2403.2	2403.2	2399.8	2396.3	2396.3	2392.9	2386.0	2382.5	2375.5
7.5°	2431.1	2434.5	2434.5	2434.5	2427.5	2427.5	2420.6	2413.7	2406.8	2399.8	2389.4
10°	2458.8	2458.8	2455.3	2451.8	2444.9	2441.4	2438.0	2431.1	2420.6	2406.8	2396.3
12.5°	2469.1	2469.1	2465.7	2458.8	2455.3	2451.8	2448.3	2438.0	2424.0	2406.8	2392.9
15°	2472.6	2465.7	2462.2	2458.8	2451.8	2441.4	2441.4	2427.5	2410.2	2389.4	2372.0
17.5°	2444.9	2448.3	2441.4	2434.5	2424.0	2417.1	2406.8	2396.3	2375.5	2351.2	2333.9
20°	2410.2	2406.8	2403.2	2392.9	2378.9	2375.5	2365.1	2347.8	2330.4	2302.6	2278.4
22.5°	2354.7	2351.2	2344.3	2337.4	2323.5	2316.6	2306.1	2285.4	2261.1	2233.3	2205.5
25°	2285.4	2278.4	2268.0	2254.1	2243.7	2236.8	2222.9	2202.1	2174.4	2143.2	2115.5
27.5°	2174.4	2184.7	2177.8	2157.0	2146.6	2132.7	2129.3	2101.5	2077.3	2046.1	2014.8
30°	2066.9	2066.9	2056.4	2046.1	2028.7	2018.4	2004.4	1983.6	1959.3	1921.3	1897.0
32.5°	1931.6	1928.2	1914.2	1910.8	1897.0	1876.2	1872.7	1845.0	1820.7	1792.9	1761.7
35°	1782.5	1775.6	1761.7	1751.3	1744.3	1733.9	1723.6	1699.3	1675.0	1647.2	1626.5
37.5°	1612.6	1612.6	1609.1	1591.7	1584.8	1577.9	1567.5	1543.2	1529.4	1501.5	1480.8
40°	1449.5	1446.1	1435.7	1432.3	1425.3	1414.9	1408.0	1394.1	1373.3	1352.4	1331.7
42.5°	1290.1	1293.5	1279.6	1283.2	1269.3	1262.4	1258.9	1238.1	1227.6	1206.8	1189.5
45°	1147.9	1144.4	1137.5	1134.0	1127.0	1120.1	1113.2	1102.8	1085.4	1064.7	1054.2
47.5°	1016.1	1005.7	1005.7	1002.2	998.8	984.8	981.4	971.0	960.6	939.7	925.9
50°	891.2	891.2	891.2	887.7	877.4	873.9	866.9	856.6	846.2	832.3	811.5
52.5°	790.6	790.6	790.6	787.2	773.4	769.9	766.4	752.6	738.6	728.3	714.4
55°	697.1	700.6	697.1	690.1	679.7	679.7	669.3	662.4	648.6	638.1	624.3
57.5°	617.3	617.3	610.4	606.9	600.0	596.4	589.5	582.6	565.2	554.9	537.5
60°	541.0	537.5	537.5	530.6	523.6	516.7	513.2	502.9	495.9	478.6	464.7
62.5°	471.6	471.6	464.7	464.7	450.8	450.8	447.3	437.0	426.5	409.2	402.2
65°	405.8	405.8	402.2	398.8	388.4	385.0	381.5	371.0	360.7	350.2	339.9
67.5°	346.8	346.8	339.9	336.4	329.4	325.9	319.0	312.1	301.7	291.3	281.0
70°	291.3	287.9	284.4	281.0	273.9	270.5	263.6	256.7	246.2	239.3	228.8
72.5°	235.9	235.9	232.4	225.4	221.9	218.5	215.0	208.1	197.7	187.3	180.3
75°	183.9	183.9	183.9	176.8	169.9	166.5	166.5	159.6	152.6	142.2	135.3
77.5°	142.2	138.8	135.3	135.3	128.3	124.8	121.4	117.9	107.5	104.0	97.1
80°	97.1	100.6	97.1	93.7	90.2	86.8	86.8	79.7	76.3	69.4	62.5
82.5°	65.9	62.5	62.5	58.9	58.9	55.5	55.5	48.6	45.1	41.6	38.2
85°	34.6	34.6	31.2	31.2	31.2	27.7	27.7	24.3	24.3	20.8	17.4
87.5°	10.4	10.4	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



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0
2.5°	2351.2	2344.3	2340.8	2340.8	2337.4	2333.9	2330.4	2326.9	2320.0	2320.0	2313.1
5°	2368.6	2361.7	2358.2	2347.8	2340.8	2340.8	2326.9	2323.5	2313.1	2306.1	2299.2
7.5°	2382.5	2368.6	2358.2	2347.8	2340.8	2333.9	2320.0	2306.1	2292.3	2278.4	2271.5
10°	2382.5	2368.6	2351.2	2333.9	2326.9	2320.0	2302.6	2281.8	2264.6	2250.6	2233.3
12.5°	2375.5	2354.7	2333.9	2320.0	2306.1	2295.7	2274.9	2254.1	2233.3	2205.5	2191.7
15°	2354.7	2326.9	2306.1	2281.8	2271.5	2254.1	2236.8	2205.5	2181.3	2157.0	2139.7
17.5°	2313.1	2278.4	2254.1	2229.8	2212.6	2202.1	2174.4	2146.6	2118.9	2091.2	2070.4
20°	2250.6	2219.5	2191.7	2160.4	2146.6	2132.7	2098.1	2070.4	2042.6	2011.3	1990.5
22.5°	2174.4	2143.2	2105.0	2080.7	2059.9	2042.6	2011.3	1980.2	1952.4	1924.7	1897.0
25°	2080.7	2049.5	2014.8	1976.7	1962.8	1945.5	1910.8	1879.6	1848.4	1817.1	1792.9
27.5°	1980.2	1938.5	1910.8	1869.3	1855.3	1838.0	1799.9	1765.1	1737.4	1713.1	1685.4
30°	1858.8	1827.6	1789.4	1751.3	1737.4	1720.0	1688.8	1657.7	1629.9	1602.2	1574.4
32.5°	1727.0	1695.8	1657.7	1629.9	1609.1	1595.2	1564.0	1536.3	1508.6	1480.8	1456.6
35°	1588.3	1553.7	1525.8	1498.1	1480.8	1463.5	1432.3	1408.0	1387.2	1362.9	1338.6
37.5°	1446.1	1421.8	1394.1	1362.9	1345.5	1331.7	1307.5	1279.6	1262.4	1241.5	1224.2
40°	1307.5	1279.6	1255.3	1227.6	1213.8	1203.3	1179.1	1158.2	1141.0	1123.6	1113.2
42.5°	1165.2	1141.0	1116.7	1099.3	1089.0	1078.5	1061.1	1036.8	1026.5	1009.1	998.8
45°	1033.4	1012.6	995.3	971.0	964.0	957.1	936.3	919.0	908.6	898.2	891.2
47.5°	908.6	894.8	873.9	860.0	849.7	842.8	828.8	814.9	804.6	797.7	790.6
50°	801.1	783.7	769.9	756.0	749.1	738.6	724.8	717.8	710.9	704.0	704.0
52.5°	700.6	683.2	669.3	658.9	652.0	645.0	634.6	631.2	624.3	624.3	620.7
55°	606.9	596.4	582.6	568.7	565.2	561.8	554.9	547.9	544.4	541.0	544.4
57.5°	527.2	516.7	502.9	492.4	489.0	485.5	482.1	475.0	471.6	471.6	471.6
60°	454.3	443.9	433.5	423.0	423.0	416.1	412.7	409.2	405.8	402.2	402.2
62.5°	388.4	377.9	367.6	360.7	357.2	353.7	346.8	343.3	339.9	339.9	336.4
65°	329.4	315.6	312.1	301.7	298.2	294.8	291.3	284.4	281.0	277.4	273.9
67.5°	270.5	263.6	253.1	246.2	242.8	239.3	235.9	228.8	225.4	221.9	215.0
70°	218.5	211.6	204.6	197.7	194.2	190.8	183.9	176.8	173.4	166.5	156.0
72.5°	169.9	163.0	156.0	149.1	145.7	142.2	135.3	128.3	121.4	114.5	107.5
75°	128.3	121.4	111.0	104.0	100.6	100.6	90.2	83.2	76.3	65.9	58.9
77.5°	90.2	79.7	76.3	69.4	65.9	58.9	52.0	45.1	38.2	34.6	27.7
80°	58.9	52.0	45.1	41.6	38.2	34.6	31.2	24.3	17.4	13.9	10.4
82.5°	34.6	31.2	27.7	24.3	20.8	17.4	13.9	13.9	10.4	6.9	3.5
85°	17.4	13.9	10.4	10.4	6.9	6.9	6.9	3.5	3.5	3.5	3.5
87.5°	6.9	3.5	3.5	3.5	3.5	3.5	3.5	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°	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0
2.5°	2309.7	2306.1	2302.6	2299.2	2299.2	2292.3	2292.3	2288.8	2281.8	2278.4	2278.4
5°	2288.8	2278.4	2271.5	2268.0	2264.6	2254.1	2250.6	2243.7	2236.8	2229.8	2226.4
7.5°	2257.5	2240.3	2233.3	2229.8	2219.5	2209.0	2202.1	2191.7	2181.3	2170.9	2167.5
10°	2219.5	2202.1	2184.7	2177.8	2167.5	2160.4	2146.6	2132.7	2122.4	2111.9	2101.5
12.5°	2170.9	2150.1	2132.7	2125.8	2115.5	2101.5	2080.7	2073.8	2056.4	2049.5	2035.6
15°	2115.5	2091.2	2073.8	2063.3	2053.0	2032.2	2018.4	2004.4	1987.1	1980.2	1966.4
17.5°	2046.1	2018.4	2001.0	1990.5	1983.6	1966.4	1945.5	1928.2	1910.8	1903.9	1893.5
20°	1962.8	1945.5	1921.3	1910.8	1903.9	1883.1	1862.2	1855.3	1841.4	1827.6	1817.1
22.5°	1869.3	1851.9	1827.6	1817.1	1813.7	1796.4	1779.0	1768.6	1758.2	1747.9	1737.4
25°	1772.1	1751.3	1730.5	1723.6	1716.6	1702.8	1688.8	1681.9	1671.5	1664.6	1657.7
27.5°	1668.0	1647.2	1629.9	1619.5	1612.6	1602.2	1595.2	1588.3	1581.4	1574.4	1570.9
30°	1557.1	1536.3	1522.4	1515.5	1508.6	1505.1	1494.6	1491.2	1487.7	1480.8	1484.3
32.5°	1446.1	1428.7	1414.9	1404.6	1404.6	1397.5	1394.1	1394.1	1390.6	1390.6	1390.6
35°	1324.7	1314.4	1303.9	1300.4	1297.0	1293.5	1290.1	1293.5	1290.1	1293.5	1297.0
37.5°	1213.8	1203.3	1196.4	1193.0	1189.5	1193.0	1189.5	1189.5	1193.0	1199.9	1203.3
40°	1099.3	1092.4	1085.4	1089.0	1085.4	1085.4	1085.4	1095.9	1099.3	1102.8	1106.2
42.5°	991.9	984.8	981.4	981.4	984.8	981.4	988.3	991.9	998.8	1009.1	1016.1
45°	887.7	884.3	884.3	887.7	884.3	891.2	891.2	898.2	908.6	915.5	922.5
47.5°	790.6	790.6	790.6	794.2	794.2	797.7	804.6	808.0	814.9	821.9	828.8
50°	700.6	704.0	707.5	707.5	707.5	714.4	721.4	724.8	728.3	731.7	742.1
52.5°	620.7	624.3	624.3	627.7	631.2	634.6	638.1	645.0	648.6	655.5	658.9
55°	544.4	544.4	551.4	554.9	554.9	554.9	561.8	561.8	568.7	572.2	579.2
57.5°	471.6	475.0	475.0	478.6	478.6	482.1	485.5	489.0	492.4	495.9	499.3
60°	402.2	402.2	402.2	405.8	409.2	412.7	409.2	416.1	416.1	423.0	426.5
62.5°	336.4	339.9	339.9	339.9	339.9	339.9	339.9	343.3	346.8	350.2	353.7
65°	273.9	273.9	273.9	270.5	273.9	270.5	273.9	277.4	277.4	281.0	284.4
67.5°	211.6	211.6	204.6	204.6	208.1	208.1	208.1	208.1	204.6	211.6	211.6
70°	152.6	149.1	145.7	142.2	142.2	138.8	138.8	135.3	135.3	135.3	135.3
72.5°	100.6	93.7	86.8	83.2	79.7	79.7	72.8	69.4	72.8	72.8	72.8
75°	52.0	45.1	41.6	38.2	34.6	34.6	31.2	31.2	31.2	31.2	31.2
77.5°	20.8	17.4	13.9	13.9	10.4	10.4	10.4	10.4	10.4	10.4	10.4
80°	6.9	6.9	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	3.5	0.0	0.0	3.5	0.0	3.5	3.5	3.5	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: P593734

CATALOG NUMBER: HC850D010-HM82555850-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0	2320.0
2.5°	2274.9	2274.9	2271.5	2274.9	2268.0	2271.5	2268.0	2268.0
5°	2222.9	2216.0	2216.0	2216.0	2212.6	2212.6	2209.0	2209.0
7.5°	2160.4	2157.0	2153.5	2150.1	2146.6	2143.2	2143.2	2143.2
10°	2098.1	2091.2	2091.2	2087.6	2080.7	2077.3	2077.3	2077.3
12.5°	2025.3	2021.8	2018.4	2018.4	2004.4	2007.9	2004.4	2004.4
15°	1955.9	1952.4	1952.4	1942.1	1935.1	1935.1	1935.1	1931.6
17.5°	1883.1	1879.6	1876.2	1869.3	1862.2	1862.2	1858.8	1862.2
20°	1806.8	1803.3	1796.4	1796.4	1792.9	1789.4	1782.5	1786.0
22.5°	1730.5	1723.6	1720.0	1720.0	1716.6	1716.6	1709.7	1709.7
25°	1650.8	1647.2	1643.7	1647.2	1640.3	1640.3	1633.4	1633.4
27.5°	1567.5	1564.0	1564.0	1564.0	1560.6	1564.0	1560.6	1560.6
30°	1484.3	1484.3	1480.8	1480.8	1484.3	1480.8	1484.3	1487.7
32.5°	1394.1	1394.1	1397.5	1397.5	1401.0	1401.0	1401.0	1401.0
35°	1300.4	1307.5	1307.5	1310.9	1314.4	1317.8	1317.8	1321.3
37.5°	1213.8	1217.3	1220.7	1224.2	1231.1	1231.1	1231.1	1231.1
40°	1120.1	1123.6	1130.5	1127.0	1141.0	1144.4	1141.0	1141.0
42.5°	1023.0	1029.9	1033.4	1040.4	1043.9	1050.8	1054.2	1054.2
45°	932.8	936.3	943.3	950.2	953.7	964.0	964.0	964.0
47.5°	839.2	846.2	849.7	856.6	860.0	870.5	873.9	870.5
50°	749.1	756.0	762.9	762.9	773.4	776.8	783.7	787.2
52.5°	662.4	665.8	672.8	676.3	683.2	690.1	693.5	697.1
55°	579.2	582.6	589.5	589.5	600.0	603.4	610.4	610.4
57.5°	502.9	506.3	513.2	509.8	516.7	523.6	523.6	520.1
60°	430.1	430.1	430.1	437.0	440.4	443.9	447.3	447.3
62.5°	353.7	360.7	364.1	364.1	367.6	371.0	371.0	367.6
65°	284.4	291.3	294.8	294.8	298.2	298.2	298.2	301.7
67.5°	215.0	215.0	215.0	218.5	215.0	215.0	215.0	215.0
70°	135.3	135.3	135.3	135.3	131.7	135.3	135.3	138.8
72.5°	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8
75°	31.2	31.2	31.2	34.6	31.2	31.2	31.2	31.2
77.5°	13.9	10.4	13.9	13.9	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°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	0.0	3.5	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)