

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: P593736

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593736
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC850D010-HM82555850-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4911.1 lumens
Efficiency: N/A
Efficacy: 119.8 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

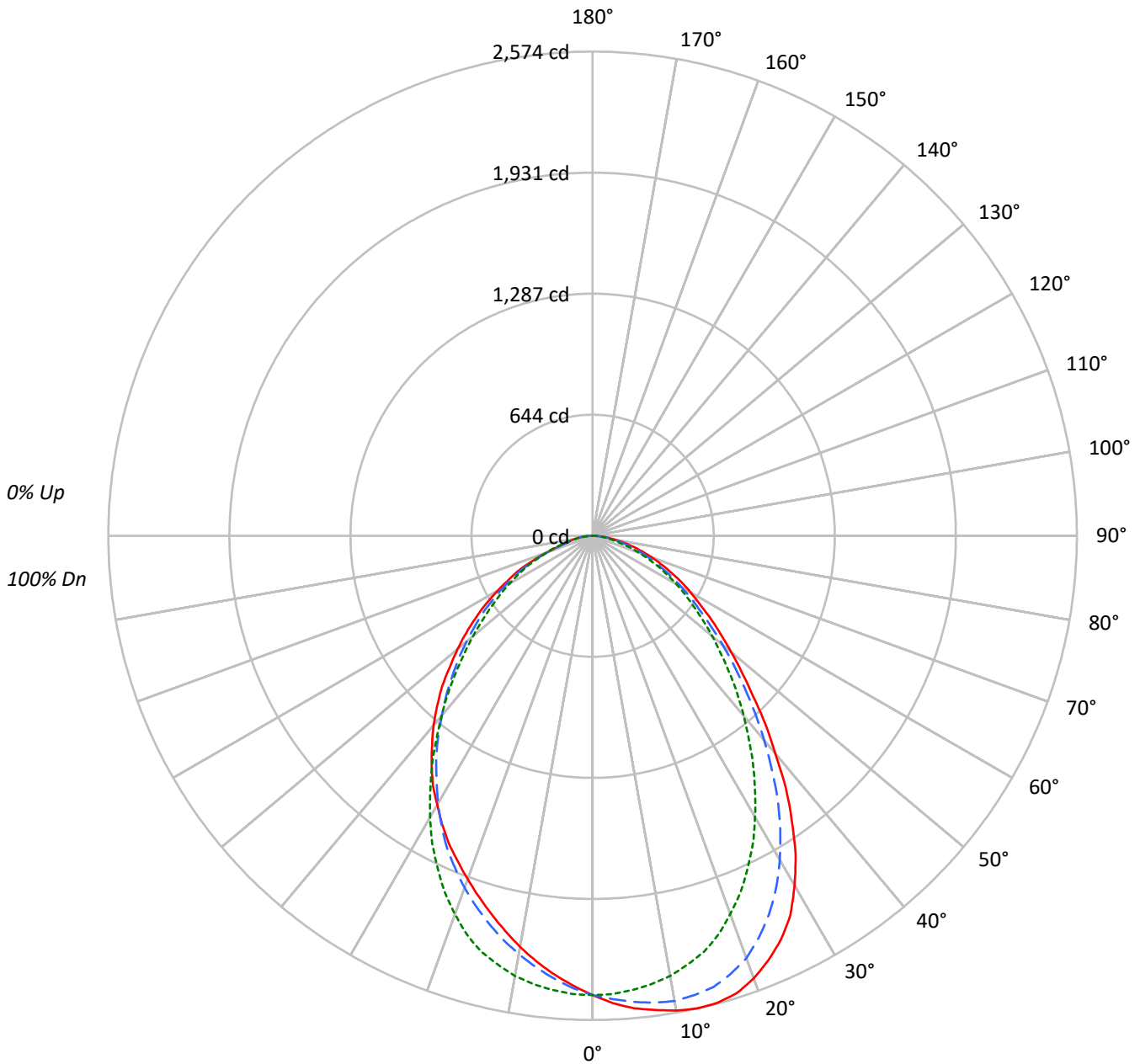
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87			
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75			
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65			
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57			
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40			
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37			
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	75296	75296	75296
5°	78054	75048	72470
10°	80262	74397	69506
15°	82051	73081	66437
20°	82176	70228	63737
25°	80600	66323	61485
30°	76448	61503	58787
35°	69461	56015	56143
40°	60735	50265	52918
45°	52636	44769	49309
50°	46092	39769	44927
55°	41020	35246	40649
60°	37004	31663	35727
65°	33403	27836	31127
70°	30023	23450	23144
75°	26438	18598	17359
80°	22162	15414	16639
85°	17195	13515	14718



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.4	4.7
10°-20°	648.8	13.2
20°-30°	927.3	18.9
30°-40°	985.3	20.1
40°-50°	848.3	17.3
50°-60°	634.2	12.9
60°-70°	404.5	8.2
70°-80°	184.1	3.7
80°-90°	48.3	1.0
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°	1806.4	36.8
0°-40°	2791.7	56.8
0°-60°	4274.2	87.0
0°-90°	4911.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4911.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2442	2442	2442	2442	2442	
5°	2522	2487	2424	2362	2341	242
15°	2570	2483	2289	2133	2081	724
25°	2369	2220	1949	1831	1807	1084
35°	1845	1717	1488	1450	1491	1149
45°	1207	1141	1027	1054	1131	938
55°	763	701	656	711	756	686
65°	458	406	382	399	427	457
75°	222	191	156	142	146	236
85°	49	42	38	42	42	59
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°	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8
2.5°	2486.9	2480.0	2483.4	2480.0	2483.4	2483.4	2476.5	2476.5	2476.5	2476.5	2466.0
5°	2521.6	2518.2	2518.2	2514.7	2511.1	2514.7	2511.1	2507.7	2500.8	2497.3	2486.9
7.5°	2542.4	2542.4	2542.4	2542.4	2539.0	2535.4	2532.0	2525.1	2518.2	2511.1	2504.2
10°	2563.3	2566.7	2563.3	2559.7	2556.2	2549.3	2545.9	2539.0	2528.5	2518.2	2511.1
12.5°	2573.6	2573.6	2570.2	2570.2	2563.3	2559.7	2549.3	2539.0	2528.5	2518.2	2500.8
15°	2570.2	2570.2	2566.7	2563.3	2552.8	2549.3	2542.4	2532.0	2514.7	2500.8	2483.4
17.5°	2549.3	2545.9	2539.0	2539.0	2525.1	2521.6	2514.7	2500.8	2483.4	2462.6	2441.8
20°	2504.2	2504.2	2500.8	2497.3	2483.4	2473.1	2466.0	2448.8	2434.9	2410.6	2389.8
22.5°	2441.8	2448.8	2441.8	2434.9	2417.5	2414.0	2403.7	2382.9	2362.0	2334.3	2310.0
25°	2368.9	2365.5	2362.0	2355.1	2341.2	2334.3	2320.4	2299.6	2278.8	2247.6	2219.8
27.5°	2275.3	2261.5	2261.5	2247.6	2237.2	2226.7	2219.8	2199.0	2171.3	2147.0	2112.2
30°	2147.0	2150.4	2133.1	2129.6	2112.2	2105.3	2091.5	2070.7	2046.4	2018.7	1990.9
32.5°	2008.2	1997.9	1997.9	1984.0	1970.0	1959.7	1956.2	1932.0	1911.1	1883.4	1855.7
35°	1845.2	1845.2	1834.9	1831.4	1817.5	1810.6	1800.1	1786.3	1762.0	1737.8	1716.9
37.5°	1685.6	1678.7	1675.3	1668.4	1657.9	1647.6	1647.6	1623.3	1619.8	1592.0	1564.3
40°	1508.8	1515.7	1508.8	1498.3	1494.9	1488.0	1484.5	1470.6	1460.2	1436.0	1418.6
42.5°	1359.7	1352.7	1352.7	1349.2	1335.4	1335.4	1328.4	1321.5	1304.1	1297.2	1276.4
45°	1207.0	1213.9	1203.6	1207.0	1193.2	1193.2	1193.2	1179.3	1165.4	1155.0	1141.1
47.5°	1075.3	1078.7	1078.7	1068.3	1064.8	1064.8	1057.9	1051.0	1040.5	1026.6	1016.3
50°	960.8	964.3	957.4	953.8	946.9	943.4	943.4	929.5	922.6	908.7	901.8
52.5°	856.7	856.7	853.2	853.2	842.9	842.9	835.9	825.5	818.6	811.6	794.3
55°	763.0	763.0	759.6	756.1	756.1	745.8	742.2	731.8	724.9	711.0	700.7
57.5°	672.9	676.4	672.9	669.4	665.9	662.5	655.6	645.1	638.2	627.8	620.8
60°	600.0	600.0	596.5	593.1	586.2	582.7	579.3	572.3	561.9	555.0	544.5
62.5°	530.6	527.2	523.7	520.3	513.4	513.4	506.3	499.4	489.1	482.1	475.2
65°	457.8	457.8	454.3	454.3	450.9	444.0	440.5	437.1	423.2	419.7	405.8
67.5°	392.0	395.4	388.4	388.4	381.5	381.5	378.1	367.7	364.1	357.2	350.3
70°	333.0	333.0	333.0	329.5	322.6	319.2	315.6	308.7	305.2	298.3	291.3
72.5°	274.1	274.1	270.5	270.5	267.0	263.6	260.1	253.2	253.2	246.2	239.3
75°	221.9	221.9	218.5	215.0	211.6	211.6	208.1	204.7	197.7	194.2	190.8
77.5°	169.9	169.9	169.9	166.5	163.0	163.0	163.0	156.1	149.1	149.1	145.7
80°	124.8	124.8	121.4	121.4	117.9	117.9	117.9	114.5	111.0	107.6	104.0
82.5°	83.3	83.3	83.3	83.3	79.7	79.7	79.7	76.3	72.8	72.8	72.8
85°	48.6	48.6	48.6	48.6	45.1	45.1	45.1	45.1	45.1	41.6	41.6
87.5°	20.8	17.4	20.8	17.4	20.8	17.4	20.8	17.4	17.4	17.4	17.4
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°	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8
2.5°	2469.6	2466.0	2462.6	2459.1	2459.1	2455.7	2448.8	2445.3	2441.8	2438.3	2438.3
5°	2483.4	2480.0	2473.1	2466.0	2462.6	2455.7	2448.8	2441.8	2434.9	2424.5	2421.1
7.5°	2493.9	2483.4	2476.5	2462.6	2459.1	2452.2	2441.8	2431.4	2417.5	2403.7	2393.2
10°	2493.9	2480.0	2469.6	2452.2	2445.3	2438.3	2424.5	2407.1	2389.8	2376.0	2358.6
12.5°	2486.9	2469.6	2452.2	2434.9	2424.5	2414.0	2393.2	2376.0	2355.1	2334.3	2320.4
15°	2462.6	2441.8	2421.1	2400.2	2389.8	2376.0	2355.1	2330.9	2310.0	2289.2	2264.9
17.5°	2417.5	2396.8	2372.5	2348.1	2334.3	2323.8	2292.7	2275.3	2244.1	2223.3	2202.5
20°	2358.6	2334.3	2303.1	2278.8	2261.5	2251.0	2226.7	2195.5	2171.3	2140.1	2119.3
22.5°	2282.3	2251.0	2219.8	2195.5	2178.2	2164.4	2133.1	2101.9	2081.1	2053.3	2029.1
25°	2192.1	2160.9	2129.6	2095.0	2077.6	2063.7	2036.0	2008.2	1980.5	1949.3	1928.5
27.5°	2084.5	2049.9	2022.2	1990.9	1973.6	1952.8	1921.5	1893.8	1866.0	1845.2	1817.5
30°	1966.6	1928.5	1900.8	1869.5	1852.1	1834.9	1803.6	1775.8	1751.6	1727.3	1713.5
32.5°	1824.4	1796.7	1768.9	1737.8	1723.8	1713.5	1682.2	1654.5	1626.7	1605.9	1595.6
35°	1689.2	1657.9	1633.6	1605.9	1588.5	1578.2	1550.5	1526.2	1512.3	1488.0	1474.1
37.5°	1547.0	1522.7	1494.9	1467.2	1456.8	1446.3	1425.5	1401.2	1380.4	1363.1	1356.1
40°	1397.8	1376.9	1352.7	1335.4	1324.9	1314.6	1297.2	1279.8	1266.0	1248.7	1241.8
42.5°	1255.6	1241.8	1220.9	1200.1	1189.6	1186.2	1165.4	1151.6	1144.5	1137.6	1130.7
45°	1127.3	1106.5	1092.5	1078.7	1068.3	1061.4	1051.0	1040.5	1033.6	1026.6	1019.7
47.5°	1002.3	985.1	971.2	960.8	950.3	946.9	940.0	929.5	922.6	922.6	922.6
50°	888.0	874.1	860.1	853.2	849.8	842.9	835.9	832.4	829.0	829.0	829.0
52.5°	787.3	773.5	763.0	756.1	756.1	749.2	742.2	738.8	738.8	738.8	738.8
55°	693.7	683.3	676.4	669.4	662.5	659.0	659.0	659.0	655.6	655.6	659.0
57.5°	610.5	603.6	593.1	586.2	582.7	582.7	579.3	575.7	579.3	582.7	586.2
60°	534.2	527.2	523.7	513.4	513.4	513.4	509.9	509.9	509.9	513.4	516.8
62.5°	464.8	461.4	454.3	450.9	447.4	447.4	444.0	444.0	444.0	444.0	447.4
65°	402.3	395.4	388.4	388.4	388.4	385.0	385.0	378.1	381.5	381.5	378.1
67.5°	343.4	336.4	333.0	329.5	326.1	326.1	322.6	319.2	315.6	315.6	315.6
70°	287.9	281.0	281.0	274.1	274.1	270.5	267.0	267.0	263.6	260.1	256.7
72.5°	232.4	229.0	225.5	221.9	221.9	221.9	218.5	215.0	211.6	208.1	201.2
75°	183.9	183.9	176.8	173.4	173.4	169.9	166.5	163.0	159.6	156.1	152.6
77.5°	142.2	138.8	131.9	128.3	128.3	128.3	124.8	121.4	117.9	114.5	111.0
80°	104.0	100.6	97.1	93.7	93.7	93.7	90.2	90.2	86.8	86.8	86.8
82.5°	69.4	69.4	65.9	65.9	65.9	65.9	62.5	62.5	62.5	62.5	62.5
85°	41.6	41.6	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2	38.2
87.5°	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4
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°	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8
2.5°	2431.4	2431.4	2424.5	2421.1	2417.5	2421.1	2414.0	2410.6	2407.1	2407.1	2403.7
5°	2410.6	2407.1	2393.2	2389.8	2386.3	2382.9	2376.0	2368.9	2362.0	2358.6	2355.1
7.5°	2382.9	2372.5	2358.6	2355.1	2351.7	2341.2	2330.9	2323.8	2313.5	2310.0	2303.1
10°	2344.7	2330.9	2320.4	2310.0	2303.1	2292.7	2282.3	2271.8	2258.0	2254.6	2244.1
12.5°	2299.6	2282.3	2261.5	2258.0	2247.6	2233.7	2219.8	2209.5	2199.0	2192.1	2181.6
15°	2244.1	2226.7	2205.9	2195.5	2185.2	2174.7	2157.4	2143.5	2133.1	2122.7	2112.2
17.5°	2178.2	2157.4	2140.1	2129.6	2122.7	2105.3	2091.5	2074.2	2063.7	2053.3	2043.0
20°	2098.4	2081.1	2056.8	2046.4	2043.0	2029.1	2011.7	2004.8	1990.9	1980.5	1973.6
22.5°	2008.2	1990.9	1970.0	1963.1	1949.3	1942.3	1925.1	1918.0	1911.1	1900.8	1897.2
25°	1907.7	1890.3	1872.9	1869.5	1859.1	1852.1	1841.8	1831.4	1831.4	1820.9	1820.9
27.5°	1803.6	1786.3	1772.4	1765.5	1762.0	1755.0	1744.7	1741.2	1737.8	1734.2	1734.2
30°	1692.7	1671.8	1664.9	1661.4	1657.9	1651.0	1647.6	1640.7	1644.1	1647.6	1644.1
32.5°	1574.7	1567.7	1553.9	1547.0	1550.5	1547.0	1540.0	1547.0	1543.4	1550.5	1553.9
35°	1460.2	1453.3	1446.3	1446.3	1439.4	1439.4	1439.4	1442.9	1449.8	1453.3	1460.2
37.5°	1349.2	1338.9	1335.4	1331.8	1335.4	1335.4	1335.4	1342.3	1349.2	1356.1	1366.6
40°	1231.3	1224.4	1224.4	1224.4	1224.4	1234.7	1231.3	1238.2	1245.2	1255.6	1266.0
42.5°	1120.3	1120.3	1123.8	1123.8	1123.8	1123.8	1130.7	1141.1	1151.6	1161.9	1172.4
45°	1016.3	1016.3	1016.3	1023.2	1023.2	1026.6	1040.5	1047.4	1054.5	1064.8	1075.3
47.5°	919.2	919.2	922.6	926.1	929.5	936.5	943.4	953.8	964.3	971.2	981.6
50°	829.0	832.4	839.4	846.3	846.3	849.8	860.1	867.2	874.1	884.4	888.0
52.5°	742.2	749.2	756.1	759.6	763.0	770.0	773.5	783.9	787.3	797.8	801.2
55°	662.5	665.9	676.4	679.8	679.8	686.7	693.7	700.7	711.0	711.0	717.9
57.5°	589.6	593.1	600.0	603.6	600.0	610.5	613.9	620.8	624.3	631.3	634.7
60°	516.8	523.7	527.2	527.2	530.6	534.2	541.1	541.1	548.0	555.0	555.0
62.5°	447.4	450.9	454.3	457.8	461.4	457.8	468.3	468.3	475.2	478.6	485.6
65°	381.5	385.0	385.0	388.4	388.4	392.0	392.0	395.4	398.9	405.8	409.2
67.5°	315.6	315.6	315.6	319.2	315.6	319.2	319.2	322.6	322.6	329.5	333.0
70°	256.7	253.2	249.8	249.8	249.8	249.8	246.2	249.8	249.8	253.2	253.2
72.5°	197.7	194.2	190.8	187.3	187.3	183.9	180.4	183.9	183.9	187.3	187.3
75°	149.1	142.2	142.2	142.2	138.8	138.8	138.8	142.2	142.2	142.2	145.7
77.5°	111.0	111.0	107.6	107.6	107.6	111.0	111.0	114.5	114.5	114.5	114.5
80°	83.3	86.8	86.8	86.8	86.8	90.2	90.2	90.2	90.2	93.7	93.7
82.5°	62.5	62.5	62.5	62.5	65.9	65.9	65.9	65.9	65.9	65.9	65.9
85°	38.2	41.6	41.6	38.2	41.6	41.6	41.6	41.6	41.6	41.6	41.6
87.5°	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4
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: P593736

CATALOG NUMBER: HC850D010-HM82555850-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8	2441.8
2.5°	2400.2	2400.2	2400.2	2400.2	2396.8	2396.8	2396.8	2393.2
5°	2348.1	2348.1	2348.1	2341.2	2344.7	2344.7	2337.8	2341.2
7.5°	2296.1	2292.7	2289.2	2289.2	2285.8	2282.3	2278.8	2282.3
10°	2237.2	2226.7	2226.7	2223.3	2223.3	2216.4	2216.4	2219.8
12.5°	2171.3	2164.4	2164.4	2160.9	2157.4	2153.9	2150.4	2150.4
15°	2105.3	2098.4	2095.0	2091.5	2088.0	2081.1	2084.5	2081.1
17.5°	2039.4	2029.1	2029.1	2025.6	2022.2	2015.1	2015.1	2011.7
20°	1963.1	1959.7	1952.8	1956.2	1952.8	1945.8	1942.3	1942.3
22.5°	1886.9	1886.9	1883.4	1883.4	1880.0	1876.4	1872.9	1872.9
25°	1814.0	1810.6	1814.0	1814.0	1803.6	1803.6	1803.6	1807.1
27.5°	1730.7	1734.2	1730.7	1730.7	1730.7	1730.7	1734.2	1730.7
30°	1647.6	1647.6	1647.6	1651.0	1657.9	1654.5	1654.5	1651.0
32.5°	1557.4	1560.8	1560.8	1564.3	1567.7	1574.7	1574.7	1578.2
35°	1467.2	1474.1	1477.6	1474.1	1484.5	1484.5	1491.4	1491.4
37.5°	1373.5	1376.9	1384.0	1387.4	1394.3	1397.8	1401.2	1401.2
40°	1272.9	1286.9	1290.3	1293.8	1304.1	1304.1	1307.6	1314.6
42.5°	1179.3	1193.2	1196.7	1200.1	1207.0	1217.5	1213.9	1220.9
45°	1089.1	1099.6	1103.0	1106.5	1116.8	1120.3	1120.3	1130.7
47.5°	992.0	998.9	1002.3	1009.4	1016.3	1023.2	1030.2	1026.6
50°	894.9	905.2	912.3	915.7	926.1	929.5	933.1	936.5
52.5°	808.1	815.2	818.6	822.1	832.4	835.9	839.4	846.3
55°	724.9	728.4	735.3	731.8	742.2	745.8	749.2	756.1
57.5°	641.6	645.1	648.6	648.6	655.6	662.5	665.9	669.4
60°	561.9	568.8	572.3	572.3	572.3	579.3	579.3	579.3
62.5°	489.1	489.1	492.5	492.5	499.4	499.4	499.4	499.4
65°	412.7	416.3	419.7	419.7	426.6	423.2	430.1	426.6
67.5°	333.0	333.0	339.9	339.9	336.4	339.9	339.9	339.9
70°	253.2	253.2	256.7	256.7	256.7	256.7	256.7	256.7
72.5°	187.3	187.3	187.3	190.8	187.3	187.3	190.8	187.3
75°	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7
77.5°	114.5	114.5	117.9	117.9	117.9	117.9	117.9	117.9
80°	93.7	93.7	93.7	93.7	97.1	93.7	93.7	93.7
82.5°	69.4	65.9	69.4	65.9	69.4	69.4	69.4	69.4
85°	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6
87.5°	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)