

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: P584795

Luminaire Tested: **HC850D010-HM82555827-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584795
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-HM82555827-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4911.8 lumens
Efficiency: N/A
Efficacy: 102.3 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

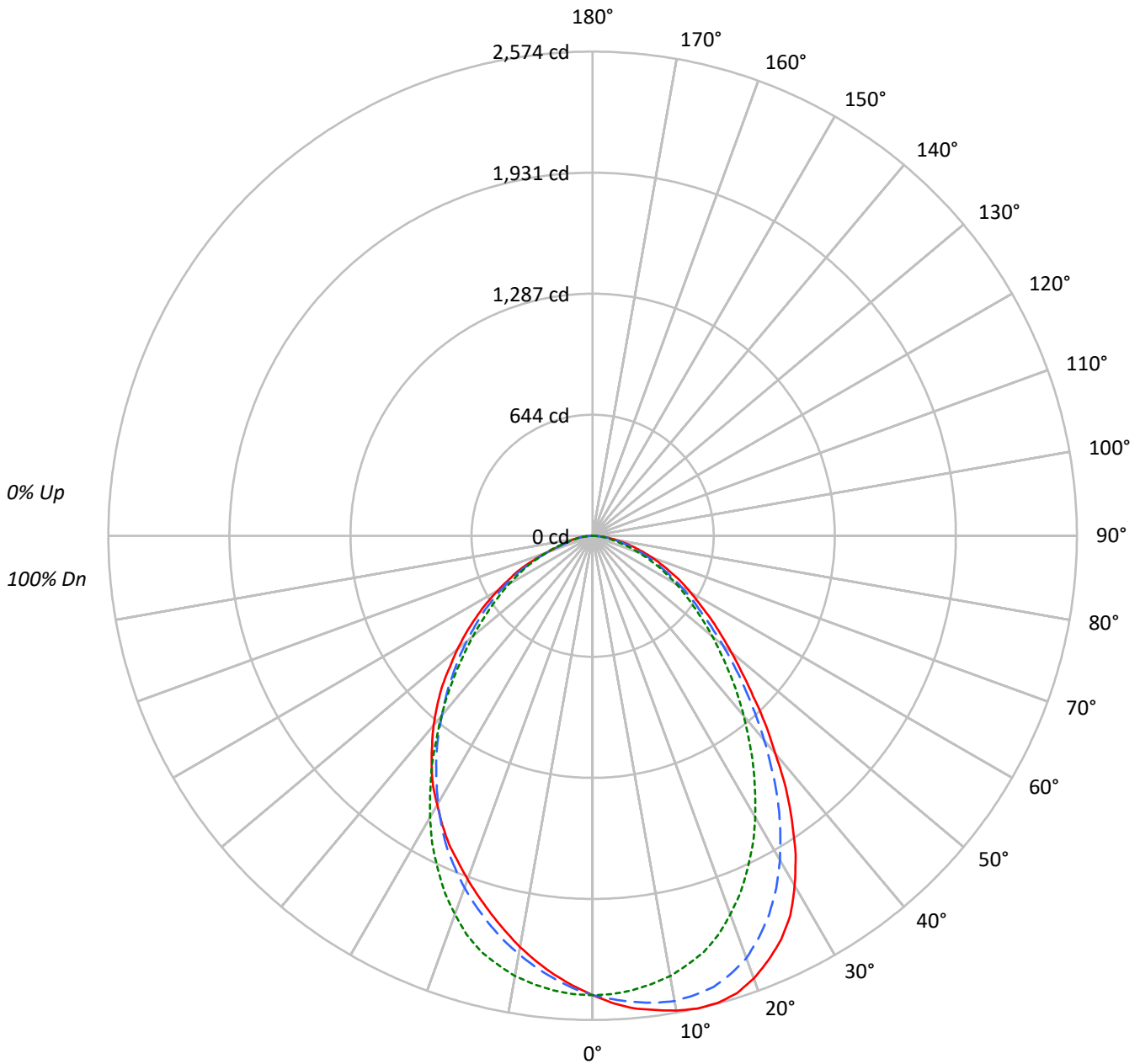
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	75308	75308	75308
5°	78066	75061	72482
10°	80271	74404	69519
15°	82061	73090	66447
20°	82189	70235	63747
25°	80613	66330	61495
30°	76458	61511	58794
35°	69472	56026	56150
40°	60747	50269	52926
45°	52645	44778	49318
50°	46097	39774	44931
55°	41025	35251	40654
60°	37016	31663	35733
65°	33411	27843	31134
70°	30023	23459	23144
75°	26450	18598	17359
80°	22162	15396	16621
85°	17160	13480	14718



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.4	4.7
10°-20°	648.9	13.2
20°-30°	927.4	18.9
30°-40°	985.4	20.1
40°-50°	848.4	17.3
50°-60°	634.3	12.9
60°-70°	404.6	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°	1806.7	36.8
0°-40°	2792.1	56.8
0°-60°	4274.8	87.0
0°-90°	4911.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4911.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2442	2442	2442	2442	2442	
5°	2522	2487	2425	2362	2342	242
15°	2570	2484	2290	2133	2081	724
25°	2369	2220	1950	1832	1807	1085
35°	1846	1717	1488	1450	1492	1149
45°	1207	1141	1027	1055	1131	938
55°	763	701	656	711	756	686
65°	458	406	382	399	427	457
75°	222	191	156	142	146	236
85°	48	42	38	42	42	58
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°	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2
2.5°	2487.3	2480.4	2483.8	2480.4	2483.8	2483.8	2476.9	2476.9	2476.9	2476.9	2466.5
5°	2522.0	2518.5	2518.5	2515.0	2511.6	2515.0	2511.6	2508.1	2501.2	2497.7	2487.3
7.5°	2542.8	2542.8	2542.8	2542.8	2539.3	2535.8	2532.4	2525.4	2518.5	2511.6	2504.6
10°	2563.6	2567.0	2563.6	2560.1	2556.6	2549.7	2546.2	2539.3	2528.9	2518.5	2511.6
12.5°	2574.0	2574.0	2570.5	2570.5	2563.6	2560.1	2549.7	2539.3	2528.9	2518.5	2501.2
15°	2570.5	2570.5	2567.0	2563.6	2553.2	2549.7	2542.8	2532.4	2515.0	2501.2	2483.8
17.5°	2549.7	2546.2	2539.3	2539.3	2525.4	2522.0	2515.0	2501.2	2483.8	2463.0	2442.2
20°	2504.6	2504.6	2501.2	2497.7	2483.8	2473.4	2466.5	2449.1	2435.3	2410.9	2390.1
22.5°	2442.2	2449.1	2442.2	2435.3	2417.8	2414.5	2404.0	2383.2	2362.4	2334.6	2310.3
25°	2369.3	2365.8	2362.4	2355.4	2341.6	2334.6	2320.8	2299.9	2279.1	2247.9	2220.2
27.5°	2275.7	2261.8	2261.8	2247.9	2237.5	2227.1	2220.2	2199.4	2171.5	2147.3	2112.6
30°	2147.3	2150.7	2133.4	2129.9	2112.6	2105.7	2091.8	2071.0	2046.7	2019.0	1991.2
32.5°	2008.6	1998.2	1998.2	1984.3	1970.3	1959.9	1956.6	1932.2	1911.4	1883.6	1855.9
35°	1845.5	1845.5	1835.1	1831.6	1817.8	1810.8	1800.4	1786.6	1762.3	1738.0	1717.1
37.5°	1685.9	1679.0	1675.5	1668.6	1658.2	1647.8	1647.8	1623.5	1620.0	1592.3	1564.5
40°	1509.1	1516.0	1509.1	1498.7	1495.2	1488.3	1484.7	1470.8	1460.4	1436.1	1418.8
42.5°	1359.9	1352.9	1352.9	1349.5	1335.6	1335.6	1328.6	1321.7	1304.4	1297.4	1276.5
45°	1207.2	1214.1	1203.7	1207.2	1193.3	1193.3	1193.3	1179.4	1165.6	1155.2	1141.3
47.5°	1075.4	1078.9	1078.9	1068.5	1065.0	1065.0	1058.1	1051.0	1040.6	1026.8	1016.4
50°	960.9	964.4	957.4	954.0	947.0	943.6	943.6	929.7	922.8	908.9	901.9
52.5°	856.9	856.9	853.4	853.4	843.0	843.0	836.1	825.7	818.7	811.8	794.5
55°	763.1	763.1	759.7	756.2	756.2	745.8	742.3	731.9	725.0	711.1	700.7
57.5°	673.0	676.5	673.0	669.5	666.1	662.6	655.7	645.3	638.3	627.9	621.0
60°	600.2	600.2	596.7	593.2	586.3	582.7	579.4	572.3	561.9	555.0	544.6
62.5°	530.7	527.3	523.8	520.3	513.4	513.4	506.5	499.5	489.1	482.2	475.2
65°	457.9	457.9	454.4	454.4	451.0	444.0	440.6	437.1	423.2	419.8	405.9
67.5°	392.0	395.5	388.6	388.6	381.6	381.6	378.2	367.8	364.3	357.4	350.3
70°	333.0	333.0	333.0	329.5	322.6	319.1	315.6	308.7	305.2	298.3	291.4
72.5°	274.0	274.0	270.6	270.6	267.1	263.6	260.2	253.2	253.2	246.3	239.4
75°	222.0	222.0	218.6	215.1	211.6	211.6	208.1	204.7	197.7	194.3	190.8
77.5°	170.0	170.0	170.0	166.5	163.1	163.1	163.1	156.1	149.2	149.2	145.7
80°	124.8	124.8	121.5	121.5	118.0	118.0	118.0	114.4	111.1	107.5	104.0
82.5°	83.2	83.2	83.2	83.2	79.8	79.8	79.8	76.3	72.8	72.8	72.8
85°	48.5	48.5	48.5	48.5	45.1	45.1	45.1	45.1	45.1	41.6	41.6
87.5°	20.8	17.3	20.8	17.3	20.8	17.3	20.8	17.3	17.3	17.3	17.3
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°	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2
2.5°	2470.0	2466.5	2463.0	2459.5	2459.5	2456.1	2449.1	2445.7	2442.2	2438.7	2438.7
5°	2483.8	2480.4	2473.4	2466.5	2463.0	2456.1	2449.1	2442.2	2435.3	2424.9	2421.3
7.5°	2494.2	2483.8	2476.9	2463.0	2459.5	2452.6	2442.2	2431.8	2417.8	2404.0	2393.6
10°	2494.2	2480.4	2470.0	2452.6	2445.7	2438.7	2424.9	2407.4	2390.1	2376.2	2358.9
12.5°	2487.3	2470.0	2452.6	2435.3	2424.9	2414.5	2393.6	2376.2	2355.4	2334.6	2320.8
15°	2463.0	2442.2	2421.3	2400.5	2390.1	2376.2	2355.4	2331.2	2310.3	2289.5	2265.3
17.5°	2417.8	2397.0	2372.8	2348.5	2334.6	2324.2	2293.0	2275.7	2244.5	2223.7	2202.9
20°	2358.9	2334.6	2303.4	2279.1	2261.8	2251.4	2227.1	2195.8	2171.5	2140.3	2119.5
22.5°	2282.6	2251.4	2220.2	2195.8	2178.5	2164.6	2133.4	2102.2	2081.4	2053.7	2029.4
25°	2192.5	2161.1	2129.9	2095.3	2077.9	2064.1	2036.3	2008.6	1980.8	1949.5	1928.7
27.5°	2084.9	2050.2	2022.4	1991.2	1973.9	1953.0	1921.8	1894.0	1866.3	1845.5	1817.8
30°	1967.0	1928.7	1901.0	1869.8	1852.4	1835.1	1803.9	1776.2	1751.9	1727.5	1713.6
32.5°	1824.7	1797.0	1769.2	1738.0	1724.0	1713.6	1682.4	1654.7	1627.0	1606.1	1595.7
35°	1689.4	1658.2	1633.9	1606.1	1588.8	1578.4	1550.7	1526.4	1512.5	1488.3	1474.3
37.5°	1547.2	1522.9	1495.2	1467.3	1456.9	1446.5	1425.7	1401.5	1380.7	1363.3	1356.4
40°	1398.0	1377.2	1352.9	1335.6	1325.2	1314.8	1297.4	1280.1	1266.1	1248.8	1241.9
42.5°	1255.7	1241.9	1221.1	1200.3	1189.8	1186.4	1165.6	1151.7	1144.8	1137.8	1130.9
45°	1127.4	1106.6	1092.8	1078.9	1068.5	1061.6	1051.0	1040.6	1033.7	1026.8	1019.8
47.5°	1002.5	985.2	971.3	960.9	950.5	947.0	940.1	929.7	922.8	922.8	922.8
50°	888.1	874.2	860.3	853.4	849.9	843.0	836.1	832.6	829.1	829.1	829.1
52.5°	787.4	773.6	763.1	756.2	756.2	749.3	742.3	738.9	738.9	738.9	738.9
55°	693.8	683.4	676.5	669.5	662.6	659.1	659.1	659.1	655.7	655.7	659.1
57.5°	610.6	603.6	593.2	586.3	582.7	582.7	579.4	575.8	579.4	582.7	586.3
60°	534.2	527.3	523.8	513.4	513.4	513.4	509.9	509.9	509.9	513.4	516.9
62.5°	464.8	461.4	454.4	451.0	447.5	447.5	444.0	444.0	444.0	444.0	447.5
65°	402.4	395.5	388.6	388.6	388.6	385.1	385.1	378.2	381.6	381.6	378.2
67.5°	343.5	336.4	333.0	329.5	326.0	326.0	322.6	319.1	315.6	315.6	315.6
70°	287.9	281.0	281.0	274.0	274.0	270.6	267.1	267.1	263.6	260.2	256.7
72.5°	232.4	229.0	225.5	222.0	222.0	222.0	218.6	215.1	211.6	208.1	201.2
75°	183.9	183.9	176.9	173.5	173.5	170.0	166.5	163.1	159.6	156.1	152.7
77.5°	142.3	138.8	131.9	128.4	128.4	128.4	124.8	121.5	118.0	114.4	111.1
80°	104.0	100.7	97.1	93.6	93.6	93.6	90.2	90.2	86.7	86.7	86.7
82.5°	69.3	69.3	65.9	65.9	65.9	65.9	62.4	62.4	62.4	62.4	62.4
85°	41.6	41.6	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1
87.5°	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
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°	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2
2.5°	2431.8	2431.8	2424.9	2421.3	2417.8	2421.3	2414.5	2410.9	2407.4	2407.4	2404.0
5°	2410.9	2407.4	2393.6	2390.1	2386.6	2383.2	2376.2	2369.3	2362.4	2358.9	2355.4
7.5°	2383.2	2372.8	2358.9	2355.4	2352.0	2341.6	2331.2	2324.2	2313.8	2310.3	2303.4
10°	2345.0	2331.2	2320.8	2310.3	2303.4	2293.0	2282.6	2272.2	2258.3	2254.9	2244.5
12.5°	2299.9	2282.6	2261.8	2258.3	2247.9	2234.1	2220.2	2209.8	2199.4	2192.5	2182.1
15°	2244.5	2227.1	2206.3	2195.8	2185.4	2175.0	2157.7	2143.8	2133.4	2123.0	2112.6
17.5°	2178.5	2157.7	2140.3	2129.9	2123.0	2105.7	2091.8	2074.5	2064.1	2053.7	2043.3
20°	2098.7	2081.4	2057.1	2046.7	2043.3	2029.4	2012.0	2005.1	1991.2	1980.8	1973.9
22.5°	2008.6	1991.2	1970.3	1963.5	1949.5	1942.6	1925.3	1918.3	1911.4	1901.0	1897.5
25°	1907.9	1890.6	1873.2	1869.8	1859.4	1852.4	1842.0	1831.6	1831.6	1821.2	1821.2
27.5°	1803.9	1786.6	1772.7	1765.8	1762.3	1755.3	1744.8	1741.5	1738.0	1734.4	1734.4
30°	1692.8	1672.0	1665.1	1661.6	1658.2	1651.2	1647.8	1640.8	1644.3	1647.8	1644.3
32.5°	1574.9	1568.0	1554.1	1547.2	1550.7	1547.2	1540.3	1547.2	1543.7	1550.7	1554.1
35°	1460.4	1453.5	1446.5	1446.5	1439.6	1439.6	1439.6	1443.1	1450.0	1453.5	1460.4
37.5°	1349.5	1339.1	1335.6	1332.1	1335.6	1335.6	1335.6	1342.5	1349.5	1356.4	1366.8
40°	1231.5	1224.5	1224.5	1224.5	1224.5	1234.9	1231.5	1238.4	1245.3	1255.7	1266.1
42.5°	1120.5	1120.5	1124.0	1124.0	1124.0	1124.0	1130.9	1141.3	1151.7	1162.1	1172.5
45°	1016.4	1016.4	1016.4	1023.3	1023.3	1026.8	1040.6	1047.7	1054.6	1065.0	1075.4
47.5°	919.3	919.3	922.8	926.2	929.7	936.6	943.6	954.0	964.4	971.3	981.7
50°	829.1	832.6	839.5	846.5	846.5	849.9	860.3	867.3	874.2	884.6	888.1
52.5°	742.3	749.3	756.2	759.7	763.1	770.1	773.6	784.0	787.4	797.8	801.3
55°	662.6	666.1	676.5	679.9	679.9	686.9	693.8	700.7	711.1	711.1	718.1
57.5°	589.8	593.2	600.2	603.6	600.2	610.6	614.0	621.0	624.4	631.4	634.9
60°	516.9	523.8	527.3	527.3	530.7	534.2	541.1	541.1	548.1	555.0	555.0
62.5°	447.5	451.0	454.4	457.9	461.4	457.9	468.3	468.3	475.2	478.7	485.6
65°	381.6	385.1	385.1	388.6	388.6	392.0	392.0	395.5	399.0	405.9	409.4
67.5°	315.6	315.6	315.6	319.1	315.6	319.1	319.1	322.6	322.6	329.5	333.0
70°	256.7	253.2	249.8	249.8	249.8	249.8	246.3	249.8	249.8	253.2	253.2
72.5°	197.7	194.3	190.8	187.3	187.3	183.9	180.4	183.9	183.9	187.3	187.3
75°	149.2	142.3	142.3	142.3	138.8	138.8	138.8	142.3	142.3	142.3	145.7
77.5°	111.1	111.1	107.5	107.5	107.5	111.1	111.1	114.4	114.4	114.4	114.4
80°	83.2	86.7	86.7	86.7	86.7	90.2	90.2	90.2	90.2	93.6	93.6
82.5°	62.4	62.4	62.4	62.4	65.9	65.9	65.9	65.9	65.9	65.9	65.9
85°	38.1	41.6	41.6	38.1	41.6	41.6	41.6	41.6	41.6	41.6	41.6
87.5°	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
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: P584795

CATALOG NUMBER: HC850D010-HM82555827-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2	2442.2
2.5°	2400.5	2400.5	2400.5	2400.5	2397.0	2397.0	2397.0	2393.6
5°	2348.5	2348.5	2348.5	2341.6	2345.0	2345.0	2338.1	2341.6
7.5°	2296.5	2293.0	2289.5	2289.5	2286.1	2282.6	2279.1	2282.6
10°	2237.5	2227.1	2227.1	2223.7	2223.7	2216.7	2216.7	2220.2
12.5°	2171.5	2164.6	2164.6	2161.1	2157.7	2154.2	2150.7	2150.7
15°	2105.7	2098.7	2095.3	2091.8	2088.3	2081.4	2084.9	2081.4
17.5°	2039.8	2029.4	2029.4	2025.9	2022.4	2015.5	2015.5	2012.0
20°	1963.5	1959.9	1953.0	1956.6	1953.0	1946.2	1942.6	1942.6
22.5°	1887.1	1887.1	1883.6	1883.6	1880.2	1876.7	1873.2	1873.2
25°	1814.3	1810.8	1814.3	1814.3	1803.9	1803.9	1803.9	1807.4
27.5°	1731.1	1734.4	1731.1	1731.1	1731.1	1731.1	1734.4	1731.1
30°	1647.8	1647.8	1647.8	1651.2	1658.2	1654.7	1654.7	1651.2
32.5°	1557.6	1561.1	1561.1	1564.5	1568.0	1574.9	1574.9	1578.4
35°	1467.3	1474.3	1477.8	1474.3	1484.7	1484.7	1491.6	1491.6
37.5°	1373.7	1377.2	1384.1	1387.6	1394.5	1398.0	1401.5	1401.5
40°	1273.2	1287.0	1290.5	1294.0	1304.4	1304.4	1307.8	1314.8
42.5°	1179.4	1193.3	1196.8	1200.3	1207.2	1217.6	1214.1	1221.1
45°	1089.3	1099.7	1103.2	1106.6	1117.0	1120.5	1120.5	1130.9
47.5°	992.1	999.0	1002.5	1009.4	1016.4	1023.3	1030.2	1026.8
50°	895.0	905.4	912.3	915.8	926.2	929.7	933.2	936.6
52.5°	808.2	815.3	818.7	822.2	832.6	836.1	839.5	846.5
55°	725.0	728.5	735.4	731.9	742.3	745.8	749.3	756.2
57.5°	641.8	645.3	648.7	648.7	655.7	662.6	666.1	669.5
60°	561.9	569.0	572.3	572.3	572.3	579.4	579.4	579.4
62.5°	489.1	489.1	492.6	492.6	499.5	499.5	499.5	499.5
65°	412.8	416.3	419.8	419.8	426.7	423.2	430.2	426.7
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°	114.4	114.4	118.0	118.0	118.0	118.0	118.0	118.0
80°	93.6	93.6	93.6	93.6	97.1	93.6	93.6	93.6
82.5°	69.3	65.9	69.3	65.9	69.3	69.3	69.3	69.3
85°	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6
87.5°	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
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)