

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: P584897

Luminaire Tested: **HC850D010-HM82555935-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584897
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-HM82555935-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4741.4 lumens
Efficiency: N/A
Efficacy: 98.8 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

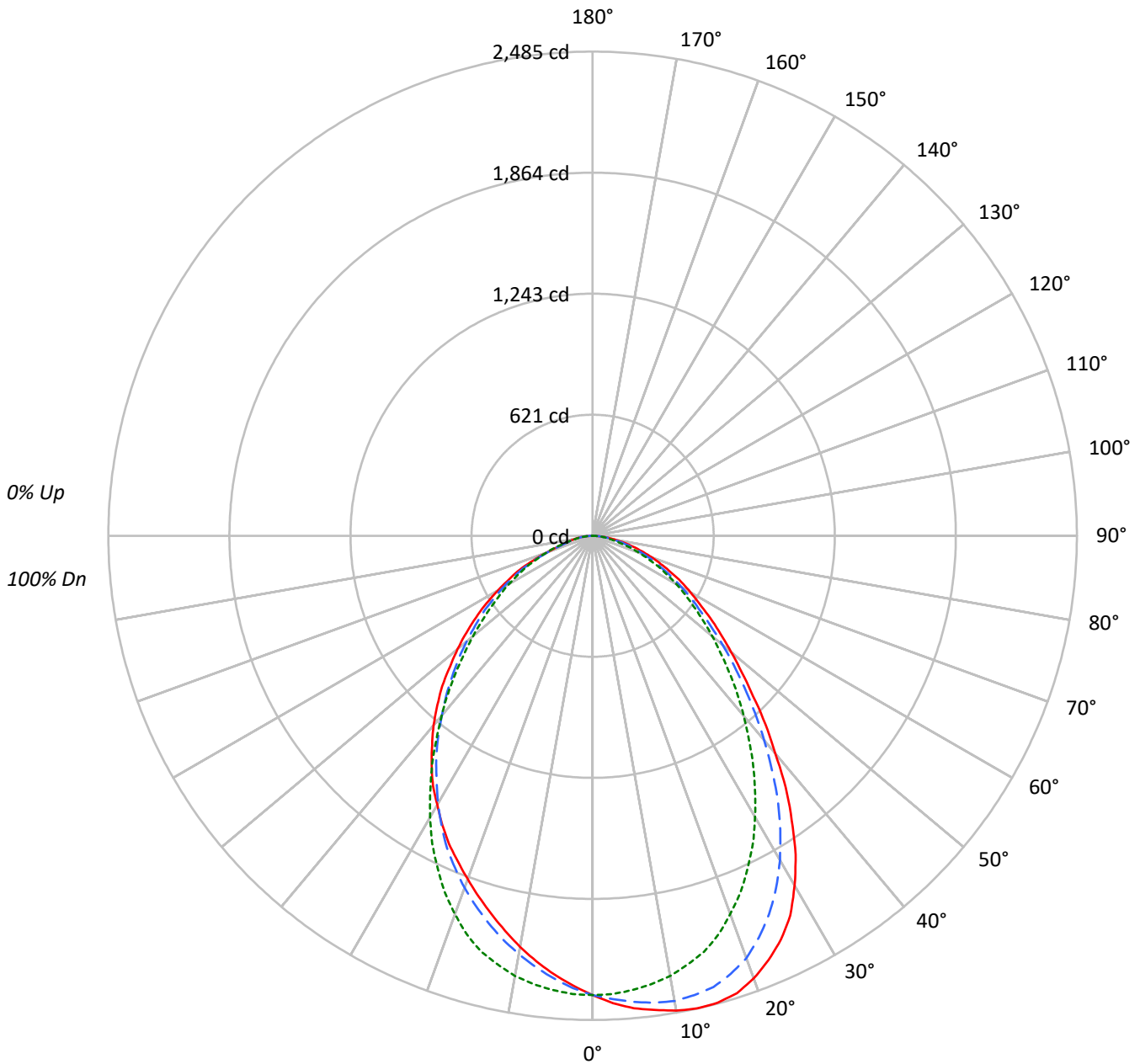
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	72694	72694	72694
5°	75355	72454	69969
10°	77488	71823	67105
15°	79213	70555	64142
20°	79338	67800	61535
25°	77817	64033	59358
30°	73809	59378	56754
35°	67059	54080	54208
40°	58638	48526	51090
45°	50822	43225	47604
50°	44500	38393	43372
55°	39606	34026	39246
60°	35733	30571	34487
65°	32251	26880	30047
70°	28986	22639	22341
75°	25532	17955	16751
80°	21398	14863	16053
85°	16594	13020	14223



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.4	4.7
10°-20°	626.4	13.2
20°-30°	895.2	18.9
30°-40°	951.2	20.1
40°-50°	819.0	17.3
50°-60°	612.3	12.9
60°-70°	390.5	8.2
70°-80°	177.7	3.7
80°-90°	46.6	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°	1744.0	36.8
0°-40°	2695.2	56.8
0°-60°	4126.5	87.0
0°-90°	4741.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4741.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2357	2357	2357	2357	2357	
5°	2434	2401	2341	2280	2260	233
15°	2481	2398	2210	2059	2009	699
25°	2287	2143	1882	1768	1745	1047
35°	1781	1658	1437	1400	1440	1109
45°	1165	1102	991	1018	1092	906
55°	737	676	633	686	730	662
65°	442	392	368	385	412	441
75°	214	184	151	137	141	228
85°	47	40	37	40	40	56
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°	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4
2.5°	2401.0	2394.2	2397.6	2394.2	2397.6	2397.6	2391.0	2391.0	2391.0	2391.0	2380.9
5°	2434.4	2431.2	2431.2	2427.8	2424.4	2427.8	2424.4	2421.1	2414.3	2411.1	2401.0
7.5°	2454.5	2454.5	2454.5	2454.5	2451.2	2447.9	2444.5	2437.8	2431.2	2424.4	2417.7
10°	2474.7	2478.0	2474.7	2471.3	2468.0	2461.2	2457.9	2451.2	2441.2	2431.2	2424.4
12.5°	2484.7	2484.7	2481.3	2481.3	2474.7	2471.3	2461.2	2451.2	2441.2	2431.2	2414.3
15°	2481.3	2481.3	2478.0	2474.7	2464.6	2461.2	2454.5	2444.5	2427.8	2414.3	2397.6
17.5°	2461.2	2457.9	2451.2	2451.2	2437.8	2434.4	2427.8	2414.3	2397.6	2377.5	2357.4
20°	2417.7	2417.7	2414.3	2411.1	2397.6	2387.6	2380.9	2364.2	2350.7	2327.4	2307.3
22.5°	2357.4	2364.2	2357.4	2350.7	2334.0	2330.6	2320.6	2300.5	2280.5	2253.6	2230.2
25°	2287.1	2283.8	2280.5	2273.7	2260.4	2253.6	2240.3	2220.2	2200.1	2169.9	2143.1
27.5°	2196.7	2183.3	2183.3	2169.9	2159.8	2149.8	2143.1	2123.0	2096.3	2072.9	2039.3
30°	2072.9	2076.1	2059.4	2056.0	2039.3	2032.7	2019.2	1999.1	1975.7	1949.0	1922.1
32.5°	1938.9	1928.8	1928.8	1915.4	1902.1	1892.0	1888.6	1865.3	1845.1	1818.3	1791.5
35°	1781.4	1781.4	1771.4	1768.1	1754.7	1748.0	1738.0	1724.5	1701.1	1677.6	1657.5
37.5°	1627.5	1620.7	1617.4	1610.6	1600.7	1590.7	1590.7	1567.2	1563.8	1537.0	1510.2
40°	1456.7	1463.4	1456.7	1446.6	1443.2	1436.6	1433.2	1419.9	1409.8	1386.3	1369.6
42.5°	1312.7	1306.0	1306.0	1302.6	1289.2	1289.2	1282.5	1275.8	1259.1	1252.3	1232.4
45°	1165.4	1172.0	1162.0	1165.4	1151.9	1151.9	1151.9	1138.5	1125.2	1115.1	1101.7
47.5°	1038.1	1041.5	1041.5	1031.4	1028.0	1028.0	1021.4	1014.7	1004.6	991.2	981.1
50°	927.6	930.9	924.2	920.8	914.2	910.9	910.9	897.4	890.8	877.3	870.7
52.5°	827.1	827.1	823.8	823.8	813.7	813.7	807.1	797.0	790.2	783.6	766.9
55°	736.7	736.7	733.3	730.0	730.0	720.0	716.6	706.5	699.9	686.4	676.4
57.5°	649.6	653.0	649.6	646.3	643.0	639.6	632.9	622.8	616.2	606.1	599.5
60°	579.4	579.4	576.0	572.6	565.9	562.5	559.2	552.5	542.5	535.8	525.7
62.5°	512.4	509.0	505.6	502.3	495.7	495.7	488.9	482.2	472.2	465.5	458.7
65°	442.0	442.0	438.7	438.7	435.3	428.7	425.3	421.9	408.6	405.2	391.8
67.5°	378.4	381.8	375.0	375.0	368.4	368.4	365.0	354.9	351.6	344.9	338.2
70°	321.5	321.5	321.5	318.1	311.4	308.0	304.8	298.0	294.7	288.0	281.3
72.5°	264.5	264.5	261.2	261.2	257.9	254.5	251.1	244.4	244.4	237.8	231.1
75°	214.3	214.3	211.0	207.6	204.2	204.2	201.0	197.6	190.9	187.5	184.1
77.5°	164.1	164.1	164.1	160.7	157.3	157.3	157.3	150.7	144.0	144.0	140.6
80°	120.5	120.5	117.3	117.3	113.9	113.9	113.9	110.5	107.2	103.8	100.4
82.5°	80.3	80.3	80.3	80.3	77.0	77.0	77.0	73.6	70.4	70.4	70.4
85°	46.9	46.9	46.9	46.9	43.5	43.5	43.5	43.5	43.5	40.2	40.2
87.5°	20.1	16.7	20.1	16.7	20.1	16.7	20.1	16.7	16.7	16.7	16.7
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°	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4
2.5°	2384.3	2380.9	2377.5	2374.2	2374.2	2370.8	2364.2	2360.8	2357.4	2354.1	2354.1
5°	2397.6	2394.2	2387.6	2380.9	2377.5	2370.8	2364.2	2357.4	2350.7	2340.7	2337.4
7.5°	2407.7	2397.6	2391.0	2377.5	2374.2	2367.5	2357.4	2347.4	2334.0	2320.6	2310.5
10°	2407.7	2394.2	2384.3	2367.5	2360.8	2354.1	2340.7	2324.0	2307.3	2293.8	2277.1
12.5°	2401.0	2384.3	2367.5	2350.7	2340.7	2330.6	2310.5	2293.8	2273.7	2253.6	2240.3
15°	2377.5	2357.4	2337.4	2317.3	2307.3	2293.8	2273.7	2250.3	2230.2	2210.1	2186.6
17.5°	2334.0	2313.9	2290.4	2267.0	2253.6	2243.5	2213.5	2196.7	2166.6	2146.5	2126.4
20°	2277.1	2253.6	2223.6	2200.1	2183.3	2173.3	2149.8	2119.7	2096.3	2066.1	2046.0
22.5°	2203.4	2173.3	2143.1	2119.7	2102.9	2089.6	2059.4	2029.3	2009.2	1982.4	1959.0
25°	2116.4	2086.2	2056.0	2022.6	2005.9	1992.4	1965.7	1938.9	1912.1	1882.0	1861.9
27.5°	2012.6	1979.0	1952.2	1922.1	1905.4	1885.2	1855.2	1828.3	1801.5	1781.4	1754.7
30°	1898.7	1861.9	1835.1	1804.9	1788.2	1771.4	1741.3	1714.5	1691.1	1667.6	1654.3
32.5°	1761.4	1734.6	1707.8	1677.6	1664.3	1654.3	1624.1	1597.3	1570.6	1550.4	1540.4
35°	1630.8	1600.7	1577.2	1550.4	1533.7	1523.7	1496.9	1473.4	1460.0	1436.6	1423.1
37.5°	1493.5	1470.0	1443.2	1416.5	1406.4	1396.4	1376.3	1352.9	1332.8	1316.1	1309.3
40°	1349.5	1329.4	1306.0	1289.2	1279.2	1269.2	1252.3	1235.6	1222.3	1205.5	1198.8
42.5°	1212.3	1198.8	1178.7	1158.6	1148.5	1145.3	1125.2	1111.7	1105.1	1098.4	1091.6
45°	1088.3	1068.2	1054.8	1041.5	1031.4	1024.7	1014.7	1004.6	997.9	991.2	984.5
47.5°	967.8	951.0	937.7	927.6	917.5	914.2	907.5	897.4	890.8	890.8	890.8
50°	857.2	843.9	830.5	823.8	820.4	813.7	807.1	803.7	800.3	800.3	800.3
52.5°	760.2	746.8	736.7	730.0	730.0	723.3	716.6	713.2	713.2	713.2	713.2
55°	669.7	659.7	653.0	646.3	639.6	636.3	636.3	636.3	632.9	632.9	636.3
57.5°	589.4	582.6	572.6	565.9	562.5	562.5	559.2	555.9	559.2	562.5	565.9
60°	515.6	509.0	505.6	495.7	495.7	495.7	492.3	492.3	492.3	495.7	498.9
62.5°	448.7	445.4	438.7	435.3	431.9	431.9	428.7	428.7	428.7	428.7	431.9
65°	388.5	381.8	375.0	375.0	375.0	371.7	371.7	365.0	368.4	368.4	365.0
67.5°	331.5	324.9	321.5	318.1	314.8	314.8	311.4	308.0	304.8	304.8	304.8
70°	278.0	271.2	271.2	264.5	264.5	261.2	257.9	257.9	254.5	251.1	247.8
72.5°	224.3	221.1	217.7	214.3	214.3	214.3	211.0	207.6	204.2	201.0	194.2
75°	177.5	177.5	170.8	167.4	167.4	164.1	160.7	157.3	154.1	150.7	147.3
77.5°	137.2	134.0	127.3	123.9	123.9	123.9	120.5	117.3	113.9	110.5	107.2
80°	100.4	97.1	93.8	90.4	90.4	90.4	87.1	87.1	83.7	83.7	83.7
82.5°	67.0	67.0	63.6	63.6	63.6	63.6	60.3	60.3	60.3	60.3	60.3
85°	40.2	40.2	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8
87.5°	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4
2.5°	2347.4	2347.4	2340.7	2337.4	2334.0	2337.4	2330.6	2327.4	2324.0	2324.0	2320.6
5°	2327.4	2324.0	2310.5	2307.3	2303.9	2300.5	2293.8	2287.1	2280.5	2277.1	2273.7
7.5°	2300.5	2290.4	2277.1	2273.7	2270.4	2260.4	2250.3	2243.5	2233.6	2230.2	2223.6
10°	2263.7	2250.3	2240.3	2230.2	2223.6	2213.5	2203.4	2193.4	2180.0	2176.7	2166.6
12.5°	2220.2	2203.4	2183.3	2180.0	2169.9	2156.6	2143.1	2133.1	2123.0	2116.4	2106.3
15°	2166.6	2149.8	2129.8	2119.7	2109.7	2099.6	2082.8	2069.5	2059.4	2049.4	2039.3
17.5°	2102.9	2082.8	2066.1	2056.0	2049.4	2032.7	2019.2	2002.5	1992.4	1982.4	1972.3
20°	2025.9	2009.2	1985.8	1975.7	1972.3	1959.0	1942.2	1935.5	1922.1	1912.1	1905.4
22.5°	1938.9	1922.1	1902.1	1895.3	1882.0	1875.2	1858.5	1851.8	1845.1	1835.1	1831.7
25°	1841.8	1825.0	1808.3	1804.9	1794.9	1788.2	1778.2	1768.1	1768.1	1758.1	1758.1
27.5°	1741.3	1724.5	1711.2	1704.5	1701.1	1694.5	1684.4	1681.0	1677.6	1674.4	1674.4
30°	1634.1	1614.0	1607.4	1604.0	1600.7	1593.9	1590.7	1583.9	1587.3	1590.7	1587.3
32.5°	1520.3	1513.6	1500.2	1493.5	1496.9	1493.5	1486.9	1493.5	1490.1	1496.9	1500.2
35°	1409.8	1403.0	1396.4	1396.4	1389.7	1389.7	1389.7	1393.1	1399.8	1403.0	1409.8
37.5°	1302.6	1292.6	1289.2	1285.9	1289.2	1289.2	1289.2	1296.0	1302.6	1309.3	1319.3
40°	1188.8	1182.1	1182.1	1182.1	1182.1	1192.1	1188.8	1195.4	1202.2	1212.3	1222.3
42.5°	1081.6	1081.6	1084.9	1084.9	1084.9	1084.9	1091.6	1101.7	1111.7	1121.8	1131.8
45°	981.1	981.1	981.1	987.8	987.8	991.2	1004.6	1011.3	1018.0	1028.0	1038.1
47.5°	887.4	887.4	890.8	894.1	897.4	904.1	910.9	920.8	930.9	937.7	947.7
50°	800.3	803.7	810.4	817.0	817.0	820.4	830.5	837.1	843.9	854.0	857.2
52.5°	716.6	723.3	730.0	733.3	736.7	743.4	746.8	756.8	760.2	770.1	773.5
55°	639.6	643.0	653.0	656.4	656.4	663.1	669.7	676.4	686.4	686.4	693.2
57.5°	569.3	572.6	579.4	582.6	579.4	589.4	592.7	599.5	602.7	609.4	612.8
60°	498.9	505.6	509.0	509.0	512.4	515.6	522.4	522.4	529.1	535.8	535.8
62.5°	431.9	435.3	438.7	442.0	445.4	442.0	452.1	452.1	458.7	462.1	468.8
65°	368.4	371.7	371.7	375.0	375.0	378.4	378.4	381.8	385.1	391.8	395.1
67.5°	304.8	304.8	304.8	308.0	304.8	308.0	308.0	311.4	311.4	318.1	321.5
70°	247.8	244.4	241.0	241.0	241.0	241.0	237.8	241.0	241.0	244.4	244.4
72.5°	190.9	187.5	184.1	180.8	180.8	177.5	174.2	177.5	177.5	180.8	180.8
75°	144.0	137.2	137.2	137.2	134.0	134.0	134.0	137.2	137.2	137.2	140.6
77.5°	107.2	107.2	103.8	103.8	103.8	107.2	107.2	110.5	110.5	110.5	110.5
80°	80.3	83.7	83.7	83.7	83.7	87.1	87.1	87.1	87.1	90.4	90.4
82.5°	60.3	60.3	60.3	60.3	63.6	63.6	63.6	63.6	63.6	63.6	63.6
85°	36.8	40.2	40.2	36.8	40.2	40.2	40.2	40.2	40.2	40.2	40.2
87.5°	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7
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: P584897

CATALOG NUMBER: HC850D010-HM82555935-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4	2357.4
2.5°	2317.3	2317.3	2317.3	2317.3	2313.9	2313.9	2313.9	2310.5
5°	2267.0	2267.0	2267.0	2260.4	2263.7	2263.7	2257.0	2260.4
7.5°	2216.8	2213.5	2210.1	2210.1	2206.7	2203.4	2200.1	2203.4
10°	2159.8	2149.8	2149.8	2146.5	2146.5	2139.7	2139.7	2143.1
12.5°	2096.3	2089.6	2089.6	2086.2	2082.8	2079.5	2076.1	2076.1
15°	2032.7	2025.9	2022.6	2019.2	2015.9	2009.2	2012.6	2009.2
17.5°	1969.1	1959.0	1959.0	1955.6	1952.2	1945.6	1945.6	1942.2
20°	1895.3	1892.0	1885.2	1888.6	1885.2	1878.6	1875.2	1875.2
22.5°	1821.7	1821.7	1818.3	1818.3	1815.0	1811.6	1808.3	1808.3
25°	1751.4	1748.0	1751.4	1751.4	1741.3	1741.3	1741.3	1744.6
27.5°	1671.0	1674.4	1671.0	1671.0	1671.0	1671.0	1674.4	1671.0
30°	1590.7	1590.7	1590.7	1593.9	1600.7	1597.3	1597.3	1593.9
32.5°	1503.6	1506.8	1506.8	1510.2	1513.6	1520.3	1520.3	1523.7
35°	1416.5	1423.1	1426.5	1423.1	1433.2	1433.2	1440.0	1440.0
37.5°	1326.1	1329.4	1336.2	1339.4	1346.1	1349.5	1352.9	1352.9
40°	1229.0	1242.3	1245.7	1249.1	1259.1	1259.1	1262.4	1269.2
42.5°	1138.5	1151.9	1155.3	1158.6	1165.4	1175.4	1172.0	1178.7
45°	1051.5	1061.6	1064.8	1068.2	1078.3	1081.6	1081.6	1091.6
47.5°	957.8	964.4	967.8	974.5	981.1	987.8	994.6	991.2
50°	864.0	873.9	880.7	884.0	894.1	897.4	900.8	904.1
52.5°	780.2	787.0	790.2	793.6	803.7	807.1	810.4	817.0
55°	699.9	703.3	709.9	706.5	716.6	720.0	723.3	730.0
57.5°	619.5	622.8	626.2	626.2	632.9	639.6	643.0	646.3
60°	542.5	549.2	552.5	552.5	552.5	559.2	559.2	559.2
62.5°	472.2	472.2	475.5	475.5	482.2	482.2	482.2	482.2
65°	398.5	401.8	405.2	405.2	411.8	408.6	415.2	411.8
67.5°	321.5	321.5	328.1	328.1	324.9	328.1	328.1	328.1
70°	244.4	244.4	247.8	247.8	247.8	247.8	247.8	247.8
72.5°	180.8	180.8	180.8	184.1	180.8	180.8	184.1	180.8
75°	140.6	140.6	140.6	140.6	140.6	140.6	140.6	140.6
77.5°	110.5	110.5	113.9	113.9	113.9	113.9	113.9	113.9
80°	90.4	90.4	90.4	90.4	93.8	90.4	90.4	90.4
82.5°	67.0	63.6	67.0	63.6	67.0	67.0	67.0	67.0
85°	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2
87.5°	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7
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)