

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: P584769

Luminaire Tested: **HC845D010-HM82555940-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584769
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: HC845D010-HM82555940-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5003.8 lumens
Efficiency: N/A
Efficacy: 113.7 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

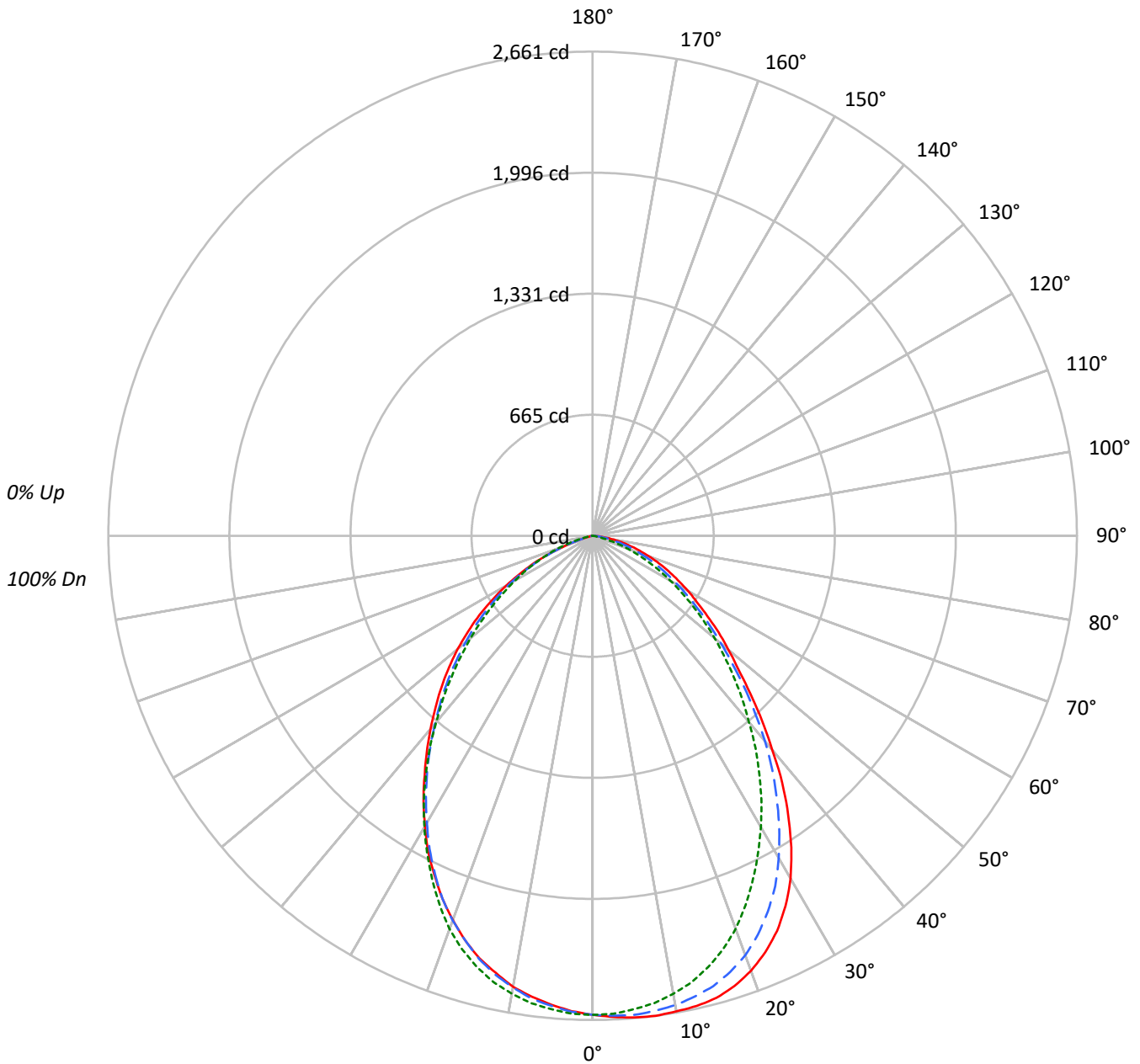
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	81186	81186	81186
5°	82257	80843	80081
10°	83099	80018	78806
15°	83938	78329	76755
20°	83512	75436	73710
25°	81566	70920	69967
30°	77473	65833	65588
35°	70526	60076	60603
40°	61830	53767	55752
45°	53343	47830	51201
50°	46711	41991	46375
55°	41386	36095	40821
60°	37287	30349	33821
65°	33600	24370	25910
70°	29473	17743	14263
75°	25127	9210	3777
80°	19356	2504	622
85°	12454	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.4	5.0
10°-20°	698.3	14.0
20°-30°	991.2	19.8
30°-40°	1043.3	20.9
40°-50°	887.6	17.7
50°-60°	641.4	12.8
60°-70°	364.8	7.3
70°-80°	115.0	2.3
80°-90°	14.0	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°	1937.9	38.7
0°-40°	2981.2	59.6
0°-60°	4510.1	90.1
0°-90°	5003.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5003.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2633	2633	2633	2633	2633	
5°	2657	2643	2612	2594	2587	254
15°	2629	2562	2454	2408	2404	740
25°	2397	2278	2084	2049	2056	1098
35°	1874	1764	1596	1585	1610	1166
45°	1223	1178	1097	1125	1174	951
55°	770	714	671	710	759	694
65°	460	397	334	330	355	457
75°	211	162	77	35	32	227
85°	35	21	0	0	0	45
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°	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8
2.5°	2646.9	2650.4	2643.4	2643.4	2650.4	2643.4	2646.9	2646.9	2643.4	2643.4	2639.8
5°	2657.4	2653.9	2653.9	2653.9	2657.4	2650.4	2646.9	2650.4	2643.4	2643.4	2643.4
7.5°	2661.0	2661.0	2657.4	2653.9	2653.9	2653.9	2650.4	2646.9	2643.4	2636.3	2632.8
10°	2653.9	2653.9	2657.4	2650.4	2650.4	2643.4	2643.4	2636.3	2636.3	2629.3	2618.7
12.5°	2646.9	2643.4	2643.4	2636.3	2636.3	2629.3	2629.3	2618.7	2615.2	2604.6	2594.1
15°	2629.3	2625.8	2618.7	2615.2	2611.7	2608.2	2601.1	2597.6	2587.1	2573.1	2562.5
17.5°	2594.1	2590.6	2587.1	2580.1	2573.1	2569.6	2566.1	2555.5	2541.4	2530.9	2513.3
20°	2544.9	2541.4	2541.4	2530.9	2527.3	2516.8	2513.3	2499.2	2488.6	2467.6	2453.6
22.5°	2478.2	2481.6	2474.7	2467.6	2460.6	2450.0	2443.0	2428.9	2411.3	2390.2	2372.7
25°	2397.3	2400.8	2393.7	2386.7	2376.1	2369.2	2362.2	2341.1	2323.5	2298.8	2277.7
27.5°	2295.3	2295.3	2295.3	2288.3	2270.7	2267.3	2260.3	2239.1	2214.5	2193.4	2172.3
30°	2175.8	2172.3	2172.3	2161.8	2154.8	2140.7	2130.2	2112.6	2095.0	2070.3	2045.8
32.5°	2031.8	2035.3	2024.7	2017.7	2007.1	2007.1	1993.0	1979.0	1957.9	1933.3	1908.7
35°	1873.5	1877.0	1870.0	1866.5	1848.9	1845.5	1842.0	1824.4	1810.3	1792.7	1764.5
37.5°	1711.9	1708.4	1704.8	1704.8	1694.3	1687.2	1680.2	1669.6	1648.5	1634.6	1620.5
40°	1536.0	1536.0	1536.0	1532.5	1529.1	1522.1	1518.6	1511.5	1497.5	1483.4	1472.8
42.5°	1377.9	1377.9	1374.4	1370.9	1363.8	1367.4	1360.3	1353.3	1339.2	1328.7	1321.6
45°	1223.2	1223.2	1223.2	1226.7	1219.7	1209.2	1209.2	1202.2	1195.2	1188.1	1177.6
47.5°	1086.2	1096.8	1089.7	1086.2	1089.7	1075.6	1075.6	1068.6	1061.6	1054.5	1040.5
50°	973.7	973.7	973.7	966.7	963.2	963.2	952.6	945.6	942.0	935.0	920.9
52.5°	871.8	864.7	864.7	861.2	857.7	850.7	850.7	843.6	829.5	822.5	812.0
55°	769.8	769.8	766.3	762.8	759.3	755.8	752.2	741.7	734.6	724.1	713.5
57.5°	678.5	685.5	682.0	674.9	667.9	667.9	660.9	653.8	643.3	632.7	622.2
60°	604.6	601.0	601.0	597.5	590.5	587.0	583.5	573.0	562.5	551.9	541.3
62.5°	527.3	527.3	527.3	520.2	513.2	509.7	506.1	499.1	485.0	474.6	467.6
65°	460.5	457.0	453.5	450.0	446.4	439.4	435.9	428.8	418.3	407.7	397.2
67.5°	393.7	390.1	390.1	386.6	376.1	372.5	372.5	362.1	351.5	341.0	330.4
70°	326.9	326.9	326.9	319.9	316.4	312.8	309.3	302.3	291.7	281.2	270.6
72.5°	270.6	267.1	267.1	263.7	253.1	249.6	246.1	239.1	228.5	221.5	214.4
75°	210.9	210.9	207.4	203.9	200.3	196.8	193.3	186.3	175.7	165.2	161.6
77.5°	161.6	158.2	158.2	154.7	147.7	144.2	144.2	137.1	126.6	119.5	112.5
80°	109.0	112.5	109.0	105.5	101.9	98.4	94.9	91.4	84.3	77.3	70.3
82.5°	66.7	70.3	66.7	66.7	63.2	59.7	59.7	52.8	49.3	45.7	42.2
85°	35.2	35.2	35.2	35.2	31.7	31.7	31.7	28.2	24.6	21.1	21.1
87.5°	10.6	14.1	10.6	10.6	10.6	10.6	10.6	10.6	7.0	7.0	7.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8
2.5°	2643.4	2639.8	2636.3	2636.3	2636.3	2636.3	2636.3	2632.8	2629.3	2629.3	2629.3
5°	2636.3	2636.3	2636.3	2632.8	2629.3	2629.3	2622.2	2618.7	2615.2	2611.7	2608.2
7.5°	2629.3	2622.2	2618.7	2615.2	2611.7	2611.7	2604.6	2597.6	2597.6	2590.6	2583.6
10°	2608.2	2604.6	2597.6	2590.6	2587.1	2583.6	2576.6	2566.1	2562.5	2555.5	2548.5
12.5°	2583.6	2576.6	2569.6	2555.5	2552.0	2548.5	2534.4	2523.8	2516.8	2513.3	2495.7
15°	2552.0	2537.9	2527.3	2509.8	2506.2	2499.2	2488.6	2478.2	2464.1	2453.6	2446.5
17.5°	2495.7	2481.6	2464.1	2446.5	2439.5	2439.5	2421.9	2407.8	2390.2	2383.2	2369.2
20°	2428.9	2411.3	2397.3	2376.1	2365.7	2355.1	2344.6	2323.5	2309.4	2298.8	2281.3
22.5°	2351.6	2327.0	2309.4	2288.3	2270.7	2260.3	2242.7	2225.1	2207.5	2196.9	2182.8
25°	2253.2	2232.1	2203.9	2182.8	2172.3	2158.3	2137.2	2119.6	2102.0	2084.4	2077.4
27.5°	2144.2	2116.1	2091.5	2066.8	2056.4	2045.8	2021.2	2000.1	1986.0	1968.4	1961.4
30°	2024.7	1996.6	1968.4	1947.4	1936.9	1919.3	1905.2	1880.6	1863.0	1848.9	1831.4
32.5°	1887.6	1866.5	1842.0	1810.3	1803.3	1789.2	1768.1	1757.5	1736.5	1726.0	1711.9
35°	1740.0	1726.0	1701.3	1676.7	1666.1	1659.1	1641.5	1620.5	1606.4	1595.9	1588.8
37.5°	1599.4	1581.8	1557.2	1539.6	1532.5	1522.1	1501.0	1490.4	1476.3	1469.3	1455.2
40°	1448.2	1430.6	1413.1	1402.6	1392.0	1385.0	1370.9	1360.3	1346.3	1335.7	1332.2
42.5°	1300.6	1290.1	1276.0	1261.9	1258.4	1247.8	1240.8	1230.2	1219.7	1216.2	1205.7
45°	1167.0	1156.5	1142.4	1128.3	1124.8	1117.8	1114.2	1103.8	1096.8	1096.8	1096.8
47.5°	1033.4	1022.9	1008.8	1001.9	1005.3	991.3	991.3	987.8	980.7	980.7	984.3
50°	913.9	899.8	896.4	889.4	882.3	875.3	878.8	868.3	868.3	875.3	871.8
52.5°	801.4	787.4	783.9	776.9	773.4	773.4	769.8	769.8	766.3	769.8	769.8
55°	699.5	688.9	682.0	674.9	671.4	671.4	671.4	667.9	664.4	671.4	674.9
57.5°	608.1	604.6	597.5	587.0	583.5	580.0	576.5	576.5	576.5	576.5	580.0
60°	527.3	520.2	513.2	502.6	502.6	499.1	495.6	492.1	492.1	492.1	492.1
62.5°	457.0	446.4	435.9	428.8	425.3	421.8	418.3	411.3	411.3	411.3	411.3
65°	386.6	376.1	369.1	362.1	355.1	355.1	348.0	344.5	337.5	334.0	326.9
67.5°	319.9	312.8	305.8	295.2	291.7	288.2	281.2	277.6	267.1	263.7	260.2
70°	260.2	249.6	242.6	235.5	232.0	225.0	217.9	210.9	203.9	196.8	189.8
72.5°	203.9	193.3	186.3	179.2	172.2	172.2	161.6	154.7	144.2	137.1	126.6
75°	151.2	140.6	133.6	123.0	119.5	116.0	105.5	98.4	87.9	77.3	70.3
77.5°	101.9	94.9	87.9	77.3	70.3	70.3	59.7	52.8	45.7	35.2	31.7
80°	63.2	56.2	49.3	42.2	42.2	35.2	31.7	24.6	17.6	14.1	10.6
82.5°	35.2	31.7	28.2	21.1	21.1	17.6	14.1	10.6	7.0	3.5	3.5
85°	17.6	14.1	10.6	10.6	7.0	7.0	7.0	3.5	3.5	0.0	0.0
87.5°	7.0	3.5	3.5	3.5	3.5	3.5	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°	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8
2.5°	2625.8	2625.8	2622.2	2622.2	2622.2	2618.7	2622.2	2618.7	2618.7	2618.7	2622.2
5°	2611.7	2604.6	2604.6	2601.1	2601.1	2597.6	2601.1	2597.6	2594.1	2590.6	2594.1
7.5°	2583.6	2576.6	2573.1	2569.6	2569.6	2569.6	2566.1	2562.5	2566.1	2555.5	2562.5
10°	2544.9	2541.4	2534.4	2530.9	2527.3	2530.9	2527.3	2520.3	2520.3	2520.3	2516.8
12.5°	2495.7	2488.6	2485.1	2481.6	2474.7	2474.7	2478.2	2471.2	2471.2	2464.1	2464.1
15°	2436.0	2428.9	2421.9	2421.9	2414.9	2414.9	2411.3	2411.3	2407.8	2404.3	2404.3
17.5°	2362.2	2351.6	2344.6	2348.1	2344.6	2341.1	2341.1	2334.0	2330.5	2334.0	2334.0
20°	2274.2	2267.3	2260.3	2263.8	2256.7	2253.2	2256.7	2246.2	2249.7	2249.7	2249.7
22.5°	2175.8	2172.3	2161.8	2161.8	2154.8	2151.3	2154.8	2154.8	2158.3	2154.8	2154.8
25°	2066.8	2059.8	2052.9	2052.9	2049.3	2045.8	2049.3	2052.9	2049.3	2052.9	2052.9
27.5°	1950.9	1940.4	1940.4	1933.3	1933.3	1936.9	1933.3	1936.9	1940.4	1940.4	1947.4
30°	1824.4	1820.8	1817.3	1813.8	1813.8	1817.3	1817.3	1817.3	1820.8	1827.9	1827.9
32.5°	1704.8	1697.8	1690.8	1690.8	1697.8	1694.3	1697.8	1697.8	1704.8	1704.8	1711.9
35°	1574.8	1574.8	1567.7	1571.2	1571.2	1571.2	1571.2	1578.3	1585.3	1588.8	1595.9
37.5°	1455.2	1444.7	1448.2	1448.2	1451.7	1448.2	1458.7	1458.7	1465.8	1465.8	1472.8
40°	1325.1	1325.1	1328.7	1325.1	1328.7	1328.7	1335.7	1342.7	1346.3	1353.3	1356.8
42.5°	1202.2	1209.2	1202.2	1205.7	1209.2	1212.8	1216.2	1219.7	1233.8	1240.8	1251.4
45°	1089.7	1093.2	1096.8	1100.3	1096.8	1103.8	1107.3	1114.2	1124.8	1128.3	1131.8
47.5°	980.7	984.3	987.8	991.3	991.3	998.3	1001.9	1008.8	1015.8	1019.3	1022.9
50°	875.3	882.3	885.8	885.8	889.4	896.4	903.3	903.3	910.4	920.9	924.4
52.5°	780.4	780.4	787.4	791.0	794.4	794.4	804.9	808.4	812.0	819.0	826.0
55°	674.9	685.5	688.9	688.9	695.9	703.0	706.5	710.0	710.0	724.1	724.1
57.5°	583.5	587.0	594.0	594.0	594.0	604.6	604.6	611.6	615.1	618.6	625.7
60°	492.1	499.1	499.1	502.6	499.1	506.1	509.7	516.7	520.2	523.7	527.3
62.5°	407.7	407.7	411.3	411.3	411.3	411.3	418.3	418.3	425.3	428.8	432.4
65°	326.9	326.9	326.9	326.9	326.9	326.9	326.9	326.9	330.4	330.4	337.5
67.5°	253.1	249.6	242.6	246.1	242.6	242.6	239.1	239.1	242.6	242.6	249.6
70°	182.8	179.2	172.2	172.2	168.7	165.2	161.6	158.2	154.7	154.7	154.7
72.5°	119.5	112.5	101.9	98.4	98.4	91.4	84.3	80.8	80.8	80.8	80.8
75°	59.7	52.8	45.7	42.2	42.2	35.2	38.7	35.2	35.2	35.2	35.2
77.5°	24.6	17.6	14.1	14.1	14.1	10.6	10.6	10.6	10.6	10.6	10.6
80°	7.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	3.5	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: P584769

CATALOG NUMBER: HC845D010-HM82555940-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8	2632.8
2.5°	2618.7	2618.7	2611.7	2615.2	2615.2	2615.2	2615.2	2615.2
5°	2587.1	2590.6	2587.1	2590.6	2590.6	2587.1	2587.1	2587.1
7.5°	2555.5	2559.0	2555.5	2559.0	2559.0	2559.0	2555.5	2555.5
10°	2516.8	2516.8	2516.8	2516.8	2516.8	2513.3	2516.8	2516.8
12.5°	2464.1	2464.1	2464.1	2467.6	2467.6	2464.1	2464.1	2460.6
15°	2407.8	2400.8	2404.3	2407.8	2404.3	2404.3	2404.3	2404.3
17.5°	2330.5	2334.0	2330.5	2330.5	2330.5	2330.5	2334.0	2330.5
20°	2249.7	2249.7	2253.2	2249.7	2249.7	2249.7	2249.7	2246.2
22.5°	2158.3	2154.8	2154.8	2158.3	2158.3	2154.8	2158.3	2158.3
25°	2056.4	2059.8	2056.4	2056.4	2059.8	2059.8	2059.8	2056.4
27.5°	1947.4	1950.9	1954.3	1950.9	1950.9	1950.9	1954.3	1957.9
30°	1834.9	1842.0	1834.9	1834.9	1842.0	1838.4	1842.0	1842.0
32.5°	1715.4	1726.0	1718.9	1726.0	1726.0	1729.5	1726.0	1729.5
35°	1595.9	1606.4	1606.4	1606.4	1609.9	1613.5	1613.5	1609.9
37.5°	1483.4	1486.9	1486.9	1493.9	1497.5	1501.0	1501.0	1497.5
40°	1367.4	1374.4	1377.9	1377.9	1377.9	1385.0	1392.0	1385.0
42.5°	1254.9	1258.4	1261.9	1261.9	1269.0	1272.5	1276.0	1276.0
45°	1145.9	1152.9	1156.5	1160.0	1163.5	1170.5	1167.0	1174.1
47.5°	1033.4	1044.0	1047.5	1051.0	1058.0	1061.6	1065.1	1068.6
50°	931.5	938.5	938.5	945.6	956.1	956.1	963.2	966.7
52.5°	829.5	833.1	836.6	840.1	847.1	854.2	854.2	861.2
55°	731.1	734.6	734.6	738.2	741.7	755.8	759.3	759.3
57.5°	629.2	629.2	636.2	639.8	643.3	650.3	650.3	650.3
60°	530.8	534.3	534.3	537.8	541.3	548.4	551.9	548.4
62.5°	432.4	435.9	435.9	439.4	446.4	450.0	446.4	446.4
65°	341.0	344.5	344.5	348.0	355.1	355.1	351.5	355.1
67.5°	249.6	249.6	249.6	249.6	249.6	249.6	249.6	249.6
70°	158.2	154.7	151.2	154.7	154.7	154.7	151.2	158.2
72.5°	77.3	80.8	80.8	80.8	80.8	80.8	80.8	77.3
75°	35.2	35.2	31.7	31.7	31.7	35.2	35.2	31.7
77.5°	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
80°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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



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













(END OF REPORT)