

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: P584888

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584888
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: HC850D010-HM82555935-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4768.2 lumens
Efficiency: N/A
Efficacy: 99.3 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

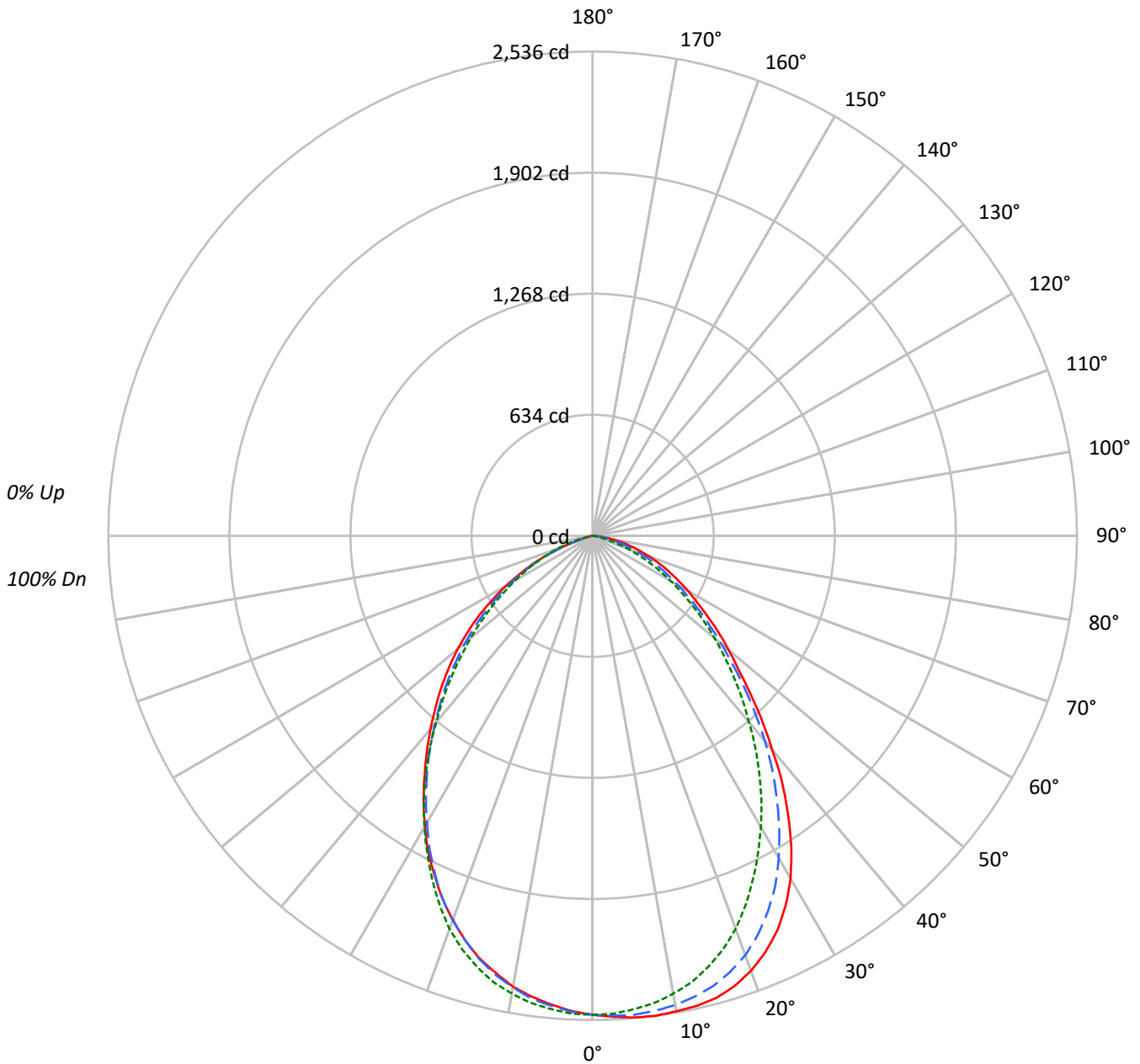
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	77362	77362	77362
5°	78385	77035	76311
10°	79185	76248	75096
15°	79986	74639	73141
20°	79580	71885	70238
25°	77728	67579	66670
30°	73823	62735	62493
35°	67206	57249	57750
40°	58924	51235	53123
45°	50831	45576	48786
50°	44509	40014	44193
55°	39434	34397	38896
60°	35530	28918	32224
65°	32017	23217	24684
70°	28085	16914	13587
75°	23948	8769	3598
80°	18433	2380	604
85°	11888	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	236.7	5.0
10°-20°	665.4	14.0
20°-30°	944.5	19.8
30°-40°	994.2	20.9
40°-50°	845.8	17.7
50°-60°	611.2	12.8
60°-70°	347.6	7.3
70°-80°	109.5	2.3
80°-90°	13.3	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°	1846.6	38.7
0°-40°	2840.8	59.6
0°-60°	4297.7	90.1
0°-90°	4768.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4768.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2509	2509	2509	2509	2509	
5°	2532	2519	2489	2472	2465	242
15°	2506	2442	2338	2294	2291	706
25°	2284	2170	1986	1953	1960	1046
35°	1785	1682	1521	1511	1534	1111
45°	1166	1122	1045	1072	1119	906
55°	734	680	640	677	724	661
65°	439	378	318	315	338	435
75°	201	154	74	34	30	216
85°	34	20	0	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°	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8
2.5°	2522.2	2525.6	2518.8	2518.8	2525.6	2518.8	2522.2	2522.2	2518.8	2518.8	2515.6
5°	2532.3	2528.9	2528.9	2528.9	2532.3	2525.6	2522.2	2525.6	2518.8	2518.8	2518.8
7.5°	2535.7	2535.7	2532.3	2528.9	2528.9	2528.9	2525.6	2522.2	2518.8	2512.2	2508.8
10°	2528.9	2528.9	2532.3	2525.6	2525.6	2518.8	2518.8	2512.2	2512.2	2505.5	2495.5
12.5°	2522.2	2518.8	2518.8	2512.2	2512.2	2505.5	2505.5	2495.5	2492.1	2482.0	2472.0
15°	2505.5	2502.1	2495.5	2492.1	2488.7	2485.4	2478.7	2475.4	2465.3	2451.9	2441.8
17.5°	2472.0	2468.7	2465.3	2458.6	2451.9	2448.6	2445.2	2435.1	2421.7	2411.6	2394.9
20°	2425.1	2421.7	2421.7	2411.6	2408.4	2398.3	2394.9	2381.6	2371.6	2351.4	2338.0
22.5°	2361.5	2364.8	2358.1	2351.4	2344.7	2334.6	2327.9	2314.5	2297.8	2277.7	2261.0
25°	2284.5	2287.7	2281.1	2274.4	2264.4	2257.6	2250.9	2230.8	2214.1	2190.6	2170.5
27.5°	2187.3	2187.3	2187.3	2180.5	2163.8	2160.4	2153.8	2133.7	2110.3	2090.2	2070.1
30°	2073.3	2070.1	2070.1	2060.0	2053.3	2039.9	2029.9	2013.1	1996.3	1972.9	1949.4
32.5°	1936.1	1939.4	1929.3	1922.7	1912.6	1912.6	1899.2	1885.8	1865.7	1842.2	1818.8
35°	1785.3	1788.7	1782.0	1778.6	1761.9	1758.5	1755.1	1738.4	1725.0	1708.3	1681.5
37.5°	1631.2	1627.9	1624.6	1624.6	1614.5	1607.8	1601.1	1591.0	1570.9	1557.6	1544.1
40°	1463.8	1463.8	1463.8	1460.4	1457.0	1450.4	1447.0	1440.3	1426.9	1413.6	1403.5
42.5°	1313.0	1313.0	1309.6	1306.4	1299.7	1303.0	1296.3	1289.6	1276.2	1266.1	1259.5
45°	1165.6	1165.6	1165.6	1169.0	1162.3	1152.3	1152.3	1145.5	1138.8	1132.2	1122.1
47.5°	1035.0	1045.1	1038.4	1035.0	1038.4	1025.0	1025.0	1018.3	1011.5	1004.9	991.4
50°	927.8	927.8	927.8	921.2	917.8	917.8	907.7	901.1	897.7	891.0	877.6
52.5°	830.7	824.0	824.0	820.6	817.2	810.6	810.6	803.9	790.5	783.8	773.8
55°	733.5	733.5	730.2	726.9	723.5	720.1	716.8	706.8	700.1	690.1	680.0
57.5°	646.5	653.1	649.8	643.1	636.4	636.4	629.7	623.1	613.0	603.0	592.9
60°	576.1	572.8	572.8	569.4	562.8	559.4	556.0	546.0	536.0	525.9	515.9
62.5°	502.4	502.4	502.4	495.8	489.0	485.7	482.3	475.7	462.2	452.2	445.5
65°	438.8	435.5	432.1	428.8	425.4	418.7	415.3	408.7	398.6	388.6	378.5
67.5°	375.1	371.9	371.9	368.5	358.4	355.0	355.0	345.0	334.9	324.9	314.8
70°	311.5	311.5	311.5	304.8	301.5	298.1	294.7	288.0	278.0	267.9	257.9
72.5°	257.9	254.6	254.6	251.2	241.2	237.8	234.5	227.7	217.7	211.0	204.3
75°	201.0	201.0	197.7	194.3	190.9	187.6	184.2	177.6	167.5	157.5	154.1
77.5°	154.1	150.7	150.7	147.4	140.6	137.4	137.4	130.6	120.6	113.9	107.2
80°	103.8	107.2	103.8	100.5	97.1	93.8	90.5	87.1	80.4	73.6	67.0
82.5°	63.6	67.0	63.6	63.6	60.3	56.9	56.9	50.3	46.9	43.5	40.2
85°	33.6	33.6	33.6	33.6	30.2	30.2	30.2	26.8	23.5	20.1	20.1
87.5°	10.1	13.4	10.1	10.1	10.1	10.1	10.1	10.1	6.7	6.7	6.7
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°	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8
2.5°	2518.8	2515.6	2512.2	2512.2	2512.2	2512.2	2512.2	2508.8	2505.5	2505.5	2505.5
5°	2512.2	2512.2	2512.2	2508.8	2505.5	2505.5	2498.7	2495.5	2492.1	2488.7	2485.4
7.5°	2505.5	2498.7	2495.5	2492.1	2488.7	2488.7	2482.0	2475.4	2475.4	2468.7	2461.9
10°	2485.4	2482.0	2475.4	2468.7	2465.3	2461.9	2455.3	2445.2	2441.8	2435.1	2428.5
12.5°	2461.9	2455.3	2448.6	2435.1	2431.8	2428.5	2415.0	2405.0	2398.3	2394.9	2378.2
15°	2431.8	2418.4	2408.4	2391.7	2388.3	2381.6	2371.6	2361.5	2348.1	2338.0	2331.3
17.5°	2378.2	2364.8	2348.1	2331.3	2324.6	2324.6	2307.8	2294.5	2277.7	2271.0	2257.6
20°	2314.5	2297.8	2284.5	2264.4	2254.3	2244.2	2234.2	2214.1	2200.6	2190.6	2173.9
22.5°	2240.9	2217.5	2200.6	2180.5	2163.8	2153.8	2137.0	2120.3	2103.5	2093.4	2080.1
25°	2147.1	2127.0	2100.2	2080.1	2070.1	2056.6	2036.5	2019.8	2003.1	1986.2	1979.6
27.5°	2043.3	2016.4	1993.0	1969.5	1959.5	1949.4	1926.0	1905.9	1892.5	1875.8	1869.1
30°	1929.3	1902.5	1875.8	1855.7	1845.6	1828.9	1815.5	1792.1	1775.2	1761.9	1745.1
32.5°	1798.7	1778.6	1755.1	1725.0	1718.3	1705.0	1684.9	1674.8	1654.7	1644.7	1631.2
35°	1658.0	1644.7	1621.2	1597.8	1587.7	1581.0	1564.2	1544.1	1530.8	1520.8	1514.0
37.5°	1524.0	1507.3	1483.8	1467.1	1460.4	1450.4	1430.3	1420.2	1406.8	1400.1	1386.8
40°	1380.0	1363.3	1346.6	1336.5	1326.5	1319.7	1306.4	1296.3	1282.9	1272.8	1269.5
42.5°	1239.4	1229.3	1215.9	1202.6	1199.2	1189.1	1182.4	1172.4	1162.3	1158.9	1148.9
45°	1112.1	1102.0	1088.6	1075.2	1071.9	1065.2	1061.8	1051.7	1045.1	1045.1	1045.1
47.5°	984.8	974.7	961.4	954.6	958.0	944.6	944.6	941.3	934.5	934.5	937.9
50°	870.9	857.5	854.2	847.4	840.7	834.1	837.4	827.3	827.3	834.1	830.7
52.5°	763.7	750.3	747.0	740.2	736.9	736.9	733.5	733.5	730.2	733.5	733.5
55°	666.6	656.5	649.8	643.1	639.8	639.8	639.8	636.4	633.0	639.8	643.1
57.5°	579.5	576.1	569.4	559.4	556.0	552.7	549.3	549.3	549.3	549.3	552.7
60°	502.4	495.8	489.0	478.9	478.9	475.7	472.3	468.9	468.9	468.9	468.9
62.5°	435.5	425.4	415.3	408.7	405.3	401.9	398.6	391.8	391.8	391.8	391.8
65°	368.5	358.4	351.8	345.0	338.3	338.3	331.6	328.3	321.6	318.2	311.5
67.5°	304.8	298.1	291.4	281.4	278.0	274.7	267.9	264.7	254.6	251.2	247.8
70°	247.8	237.8	231.1	224.4	221.1	214.4	207.7	201.0	194.3	187.6	180.8
72.5°	194.3	184.2	177.6	170.8	164.1	164.1	154.1	147.4	137.4	130.6	120.6
75°	144.0	134.0	127.3	117.3	113.9	110.6	100.5	93.8	83.7	73.6	67.0
77.5°	97.1	90.5	83.7	73.6	67.0	67.0	56.9	50.3	43.5	33.6	30.2
80°	60.3	53.5	46.9	40.2	40.2	33.6	30.2	23.5	16.7	13.4	10.1
82.5°	33.6	30.2	26.8	20.1	20.1	16.7	13.4	10.1	6.7	3.4	3.4
85°	16.7	13.4	10.1	10.1	6.7	6.7	6.7	3.4	3.4	0.0	0.0
87.5°	6.7	3.4	3.4	3.4	3.4	3.4	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°	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8
2.5°	2502.1	2502.1	2498.7	2498.7	2498.7	2495.5	2498.7	2495.5	2495.5	2495.5	2498.7
5°	2488.7	2482.0	2482.0	2478.7	2478.7	2475.4	2478.7	2475.4	2472.0	2468.7	2472.0
7.5°	2461.9	2455.3	2451.9	2448.6	2448.6	2448.6	2445.2	2441.8	2445.2	2435.1	2441.8
10°	2425.1	2421.7	2415.0	2411.6	2408.4	2411.6	2408.4	2401.6	2401.6	2401.6	2398.3
12.5°	2378.2	2371.6	2368.2	2364.8	2358.1	2358.1	2361.5	2354.7	2354.7	2348.1	2348.1
15°	2321.3	2314.5	2307.8	2307.8	2301.2	2301.2	2297.8	2297.8	2294.5	2291.1	2291.1
17.5°	2250.9	2240.9	2234.2	2237.5	2234.2	2230.8	2230.8	2224.1	2220.7	2224.1	2224.1
20°	2167.2	2160.4	2153.8	2157.2	2150.4	2147.1	2150.4	2140.4	2143.7	2143.7	2143.7
22.5°	2073.3	2070.1	2060.0	2060.0	2053.3	2050.0	2053.3	2053.3	2056.6	2053.3	2053.3
25°	1969.5	1962.9	1956.2	1956.2	1952.8	1949.4	1952.8	1956.2	1952.8	1956.2	1956.2
27.5°	1859.1	1849.0	1849.0	1842.2	1842.2	1845.6	1842.2	1845.6	1849.0	1849.0	1855.7
30°	1738.4	1735.0	1731.8	1728.4	1728.4	1731.8	1731.8	1731.8	1735.0	1741.8	1741.8
32.5°	1624.6	1617.9	1611.1	1611.1	1617.9	1614.5	1617.9	1617.9	1624.6	1624.6	1631.2
35°	1500.6	1500.6	1493.9	1497.3	1497.3	1497.3	1497.3	1503.9	1510.7	1514.0	1520.8
37.5°	1386.8	1376.7	1380.0	1380.0	1383.4	1380.0	1390.1	1390.1	1396.7	1396.7	1403.5
40°	1262.8	1262.8	1266.1	1262.8	1266.1	1266.1	1272.8	1279.6	1282.9	1289.6	1292.9
42.5°	1145.5	1152.3	1145.5	1148.9	1152.3	1155.6	1158.9	1162.3	1175.7	1182.4	1192.5
45°	1038.4	1041.7	1045.1	1048.5	1045.1	1051.7	1055.1	1061.8	1071.9	1075.2	1078.5
47.5°	934.5	937.9	941.3	944.6	944.6	951.3	954.6	961.4	968.0	971.3	974.7
50°	834.1	840.7	844.1	844.1	847.4	854.2	860.9	860.9	867.5	877.6	881.0
52.5°	743.6	743.6	750.3	753.7	757.0	757.0	767.1	770.4	773.8	780.4	787.2
55°	643.1	653.1	656.5	656.5	663.2	670.0	673.2	676.6	676.6	690.1	690.1
57.5°	556.0	559.4	566.0	566.0	566.0	576.1	576.1	582.9	586.1	589.5	596.2
60°	468.9	475.7	475.7	478.9	475.7	482.3	485.7	492.4	495.8	499.0	502.4
62.5°	388.6	388.6	391.8	391.8	391.8	391.8	398.6	398.6	405.3	408.7	412.0
65°	311.5	311.5	311.5	311.5	311.5	311.5	311.5	311.5	314.8	314.8	321.6
67.5°	241.2	237.8	231.1	234.5	231.1	231.1	227.7	227.7	231.1	231.1	237.8
70°	174.2	170.8	164.1	164.1	160.7	157.5	154.1	150.7	147.4	147.4	147.4
72.5°	113.9	107.2	97.1	93.8	93.8	87.1	80.4	77.0	77.0	77.0	77.0
75°	56.9	50.3	43.5	40.2	40.2	33.6	36.8	33.6	33.6	33.6	33.6
77.5°	23.5	16.7	13.4	13.4	13.4	10.1	10.1	10.1	10.1	10.1	10.1
80°	6.7	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
82.5°	3.4	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: P584888

CATALOG NUMBER: HC850D010-HM82555935-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8	2508.8
2.5°	2495.5	2495.5	2488.7	2492.1	2492.1	2492.1	2492.1	2492.1
5°	2465.3	2468.7	2465.3	2468.7	2468.7	2465.3	2465.3	2465.3
7.5°	2435.1	2438.5	2435.1	2438.5	2438.5	2438.5	2435.1	2435.1
10°	2398.3	2398.3	2398.3	2398.3	2398.3	2394.9	2398.3	2398.3
12.5°	2348.1	2348.1	2348.1	2351.4	2351.4	2348.1	2348.1	2344.7
15°	2294.5	2287.7	2291.1	2294.5	2291.1	2291.1	2291.1	2291.1
17.5°	2220.7	2224.1	2220.7	2220.7	2220.7	2220.7	2224.1	2220.7
20°	2143.7	2143.7	2147.1	2143.7	2143.7	2143.7	2143.7	2140.4
22.5°	2056.6	2053.3	2053.3	2056.6	2056.6	2053.3	2056.6	2056.6
25°	1959.5	1962.9	1959.5	1959.5	1962.9	1962.9	1962.9	1959.5
27.5°	1855.7	1859.1	1862.3	1859.1	1859.1	1859.1	1862.3	1865.7
30°	1748.5	1755.1	1748.5	1748.5	1755.1	1751.9	1755.1	1755.1
32.5°	1634.6	1644.7	1638.0	1644.7	1644.7	1647.9	1644.7	1647.9
35°	1520.8	1530.8	1530.8	1530.8	1534.1	1537.5	1537.5	1534.1
37.5°	1413.6	1416.8	1416.8	1423.6	1426.9	1430.3	1430.3	1426.9
40°	1303.0	1309.6	1313.0	1313.0	1313.0	1319.7	1326.5	1319.7
42.5°	1195.8	1199.2	1202.6	1202.6	1209.2	1212.6	1215.9	1215.9
45°	1092.0	1098.6	1102.0	1105.4	1108.7	1115.5	1112.1	1118.7
47.5°	984.8	994.8	998.2	1001.5	1008.3	1011.5	1014.9	1018.3
50°	887.6	894.3	894.3	901.1	911.1	911.1	917.8	921.2
52.5°	790.5	793.9	797.3	800.5	807.2	814.0	814.0	820.6
55°	696.7	700.1	700.1	703.4	706.8	720.1	723.5	723.5
57.5°	599.6	599.6	606.2	609.6	613.0	619.7	619.7	619.7
60°	505.8	509.1	509.1	512.5	515.9	522.5	525.9	522.5
62.5°	412.0	415.3	415.3	418.7	425.4	428.8	425.4	425.4
65°	324.9	328.3	328.3	331.6	338.3	338.3	334.9	338.3
67.5°	237.8	237.8	237.8	237.8	237.8	237.8	237.8	237.8
70°	150.7	147.4	144.0	147.4	147.4	147.4	144.0	150.7
72.5°	73.6	77.0	77.0	77.0	77.0	77.0	77.0	73.6
75°	33.6	33.6	30.2	30.2	30.2	33.6	33.6	30.2
77.5°	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
80°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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



Report Generated By 670245859 / DESKTOP-HRDQ47P





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













(END OF REPORT)