

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: P593804

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593804
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: 5506.6 lumens
Efficiency: N/A
Efficacy: 114.7 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

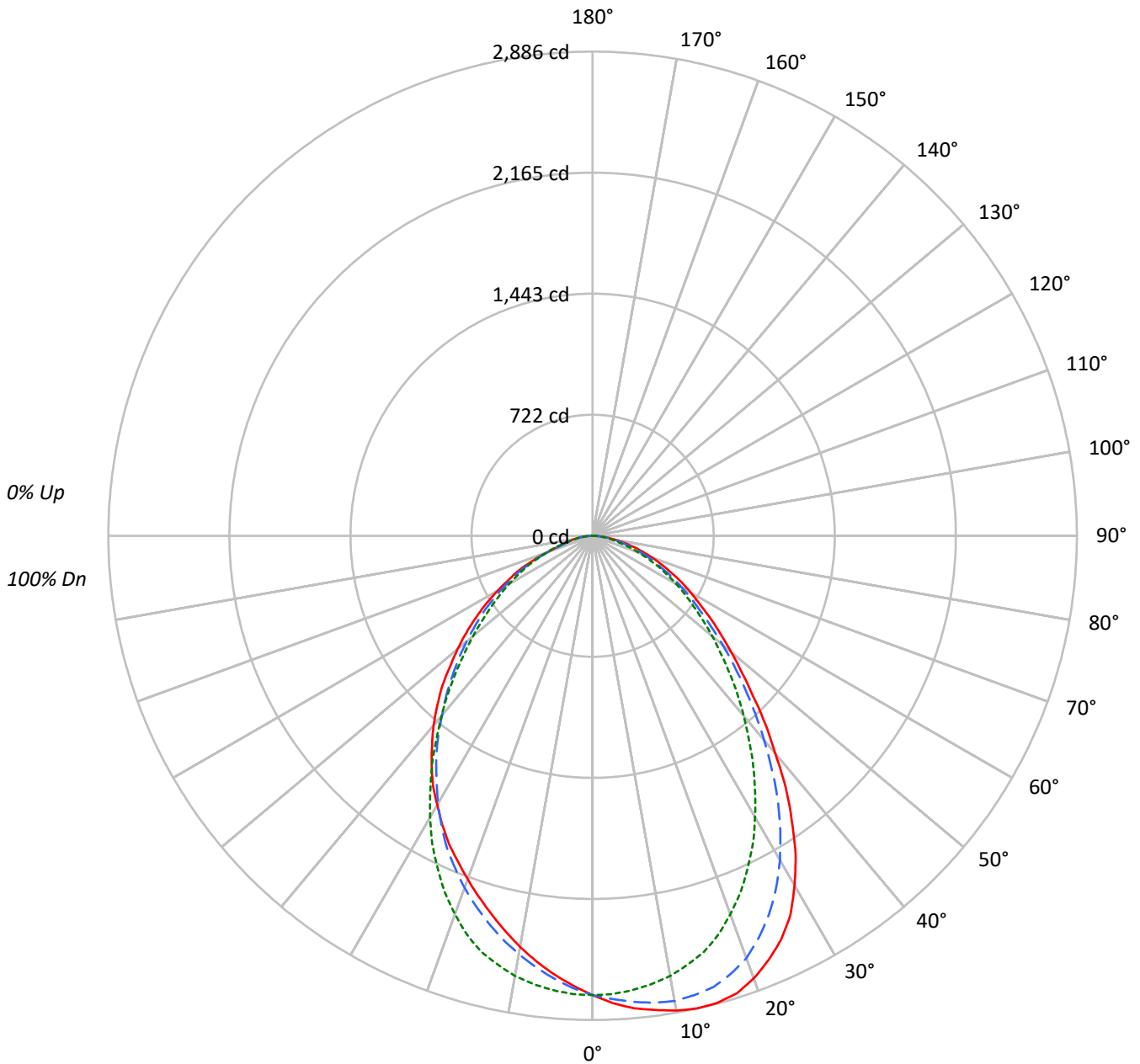
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	84427	84427	84427
5°	87517	84149	81258
10°	89991	83415	77936
15°	91999	81943	74492
20°	92142	78744	71465
25°	90375	74366	68940
30°	85716	68963	65915
35°	77886	62806	62952
40°	68102	56360	59334
45°	59021	50198	55288
50°	51676	44591	50371
55°	45998	39520	45584
60°	41493	35499	40056
65°	37453	31222	34906
70°	33666	26299	25948
75°	29655	20850	19456
80°	24861	17278	18646
85°	19282	15143	16487



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.3	4.7
10°-20°	727.5	13.2
20°-30°	1039.7	18.9
30°-40°	1104.7	20.1
40°-50°	951.1	17.3
50°-60°	711.1	12.9
60°-70°	453.6	8.2
70°-80°	206.4	3.7
80°-90°	54.2	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°	2025.5	36.8
0°-40°	3130.2	56.8
0°-60°	4792.4	87.0
0°-90°	5506.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5506.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2738	2738	2738	2738	2738	
5°	2827	2788	2718	2648	2625	271
15°	2882	2785	2567	2392	2333	812
25°	2656	2489	2186	2054	2026	1216
35°	2069	1925	1668	1626	1672	1288
45°	1353	1280	1151	1182	1268	1052
55°	856	786	735	797	848	769
65°	513	455	428	447	478	512
75°	249	214	175	160	163	264
85°	54	47	43	47	47	66
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°	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9
2.5°	2788.4	2780.7	2784.6	2780.7	2784.6	2784.6	2776.8	2776.8	2776.8	2776.8	2765.2
5°	2827.3	2823.5	2823.5	2819.6	2815.7	2819.6	2815.7	2811.8	2804.0	2800.1	2788.4
7.5°	2850.7	2850.7	2850.7	2850.7	2846.7	2842.9	2839.0	2831.2	2823.5	2815.7	2807.9
10°	2874.0	2878.0	2874.0	2870.1	2866.3	2858.4	2854.6	2846.7	2835.2	2823.5	2815.7
12.5°	2885.7	2885.7	2881.8	2881.8	2874.0	2870.1	2858.4	2846.7	2835.2	2823.5	2804.0
15°	2881.8	2881.8	2878.0	2874.0	2862.4	2858.4	2850.7	2839.0	2819.6	2804.0	2784.6
17.5°	2858.4	2854.6	2846.7	2846.7	2831.2	2827.3	2819.6	2804.0	2784.6	2761.3	2737.9
20°	2807.9	2807.9	2804.0	2800.1	2784.6	2772.9	2765.2	2745.6	2730.1	2703.0	2679.6
22.5°	2737.9	2745.6	2737.9	2730.1	2710.7	2706.8	2695.1	2671.7	2648.5	2617.4	2590.2
25°	2656.2	2652.3	2648.5	2640.7	2625.1	2617.4	2601.8	2578.5	2555.1	2520.1	2489.0
27.5°	2551.2	2535.7	2535.7	2520.1	2508.4	2496.8	2489.0	2465.7	2434.6	2407.3	2368.4
30°	2407.3	2411.2	2391.8	2387.9	2368.4	2360.7	2345.1	2321.8	2294.5	2263.4	2232.3
32.5°	2251.7	2240.2	2240.2	2224.6	2208.9	2197.4	2193.4	2166.2	2142.9	2111.8	2080.7
35°	2069.0	2069.0	2057.3	2053.5	2037.9	2030.1	2018.4	2002.8	1975.6	1948.4	1925.1
37.5°	1890.0	1882.3	1878.5	1870.6	1858.9	1847.3	1847.3	1820.1	1816.2	1785.1	1754.0
40°	1691.8	1699.5	1691.8	1680.1	1676.2	1668.4	1664.5	1649.0	1637.3	1610.1	1590.7
42.5°	1524.5	1516.8	1516.8	1512.8	1497.3	1497.3	1489.5	1481.7	1462.3	1454.5	1431.2
45°	1353.4	1361.2	1349.5	1353.4	1337.8	1337.8	1337.8	1322.3	1306.7	1295.0	1279.5
47.5°	1205.6	1209.4	1209.4	1197.9	1193.9	1193.9	1186.2	1178.4	1166.8	1151.1	1139.5
50°	1077.2	1081.2	1073.4	1069.5	1061.7	1057.8	1057.8	1042.3	1034.4	1018.9	1011.2
52.5°	960.6	960.6	956.7	956.7	945.0	945.0	937.3	925.6	917.8	910.1	890.5
55°	855.6	855.6	851.7	847.9	847.9	836.2	832.2	820.6	812.8	797.3	785.6
57.5°	754.5	758.3	754.5	750.6	746.8	742.8	735.1	723.4	715.5	704.0	696.1
60°	672.8	672.8	668.9	665.0	657.2	653.4	649.5	641.7	630.0	622.3	610.6
62.5°	595.0	591.2	587.3	583.3	575.6	575.6	567.8	560.1	548.4	540.5	532.8
65°	513.3	513.3	509.5	509.5	505.6	497.8	493.9	490.0	474.5	470.5	455.0
67.5°	439.4	443.4	435.6	435.6	427.9	427.9	423.9	412.2	408.3	400.6	392.8
70°	373.4	373.4	373.4	369.4	361.7	357.8	353.9	346.1	342.3	334.5	326.7
72.5°	307.2	307.2	303.4	303.4	299.5	295.5	291.7	284.0	284.0	276.1	268.4
75°	248.9	248.9	245.0	241.2	237.2	237.2	233.3	229.5	221.6	217.8	213.9
77.5°	190.5	190.5	190.5	186.7	182.8	182.8	182.8	175.0	167.3	167.3	163.3
80°	140.0	140.0	136.1	136.1	132.2	132.2	132.2	128.4	124.5	120.5	116.7
82.5°	93.3	93.3	93.3	93.3	89.4	89.4	89.4	85.6	81.7	81.7	81.7
85°	54.5	54.5	54.5	54.5	50.5	50.5	50.5	50.5	50.5	46.6	46.6
87.5°	23.4	19.4	23.4	19.4	23.4	19.4	23.4	19.4	19.4	19.4	19.4
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°	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9
2.5°	2769.0	2765.2	2761.3	2757.3	2757.3	2753.5	2745.6	2741.8	2737.9	2734.1	2734.1
5°	2784.6	2780.7	2772.9	2765.2	2761.3	2753.5	2745.6	2737.9	2730.1	2718.5	2714.5
7.5°	2796.2	2784.6	2776.8	2761.3	2757.3	2749.6	2737.9	2726.2	2710.7	2695.1	2683.4
10°	2796.2	2780.7	2769.0	2749.6	2741.8	2734.1	2718.5	2699.0	2679.6	2664.0	2644.5
12.5°	2788.4	2769.0	2749.6	2730.1	2718.5	2706.8	2683.4	2664.0	2640.7	2617.4	2601.8
15°	2761.3	2737.9	2714.5	2691.3	2679.6	2664.0	2640.7	2613.4	2590.2	2566.8	2539.5
17.5°	2710.7	2687.3	2660.2	2632.9	2617.4	2605.7	2570.6	2551.2	2516.3	2492.9	2469.5
20°	2644.5	2617.4	2582.3	2555.1	2535.7	2524.0	2496.8	2461.8	2434.6	2399.6	2376.2
22.5°	2559.1	2524.0	2489.0	2461.8	2442.4	2426.7	2391.8	2356.8	2333.4	2302.3	2275.1
25°	2457.9	2422.9	2387.9	2349.0	2329.6	2314.0	2282.9	2251.7	2220.6	2185.7	2162.3
27.5°	2337.3	2298.5	2267.3	2232.3	2212.9	2189.5	2154.6	2123.5	2092.3	2069.0	2037.9
30°	2205.1	2162.3	2131.2	2096.3	2076.7	2057.3	2022.4	1991.2	1964.0	1936.8	1921.3
32.5°	2045.6	2014.5	1983.4	1948.4	1932.8	1921.3	1886.2	1855.1	1824.0	1800.6	1788.9
35°	1894.0	1858.9	1831.7	1800.6	1781.2	1769.5	1738.4	1711.2	1695.6	1668.4	1652.8
37.5°	1734.6	1707.3	1676.2	1645.1	1633.4	1621.8	1598.4	1571.1	1547.9	1528.4	1520.6
40°	1567.3	1544.0	1516.8	1497.3	1485.7	1474.0	1454.5	1435.1	1419.5	1400.1	1392.3
42.5°	1407.8	1392.3	1368.9	1345.6	1333.9	1330.1	1306.7	1291.2	1283.4	1275.6	1267.8
45°	1263.9	1240.7	1225.1	1209.4	1197.9	1190.0	1178.4	1166.8	1158.9	1151.1	1143.4
47.5°	1124.0	1104.5	1088.9	1077.2	1065.7	1061.7	1054.0	1042.3	1034.4	1034.4	1034.4
50°	995.6	980.1	964.5	956.7	952.9	945.0	937.3	933.3	929.5	929.5	929.5
52.5°	882.8	867.3	855.6	847.9	847.9	840.0	832.2	828.4	828.4	828.4	828.4
55°	777.9	766.2	758.3	750.6	742.8	738.9	738.9	738.9	735.1	735.1	738.9
57.5°	684.4	676.7	665.0	657.2	653.4	653.4	649.5	645.6	649.5	653.4	657.2
60°	598.9	591.2	587.3	575.6	575.6	575.6	571.6	571.6	571.6	575.6	579.5
62.5°	521.1	517.3	509.5	505.6	501.7	501.7	497.8	497.8	497.8	497.8	501.7
65°	451.1	443.4	435.6	435.6	435.6	431.7	431.7	423.9	427.9	427.9	423.9
67.5°	385.1	377.2	373.4	369.4	365.5	365.5	361.7	357.8	353.9	353.9	353.9
70°	322.8	315.0	315.0	307.2	307.2	303.4	299.5	299.5	295.5	291.7	287.8
72.5°	260.6	256.7	252.7	248.9	248.9	248.9	245.0	241.2	237.2	233.3	225.6
75°	206.1	206.1	198.4	194.4	194.4	190.5	186.7	182.8	178.9	175.0	171.1
77.5°	159.5	155.6	147.8	143.9	143.9	143.9	140.0	136.1	132.2	128.4	124.5
80°	116.7	112.8	109.0	105.0	105.0	105.0	101.1	101.1	97.3	97.3	97.3
82.5°	77.7	77.7	73.9	73.9	73.9	73.9	70.0	70.0	70.0	70.0	70.0
85°	46.6	46.6	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8
87.5°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
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°	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9
2.5°	2726.2	2726.2	2718.5	2714.5	2710.7	2714.5	2706.8	2703.0	2699.0	2699.0	2695.1
5°	2703.0	2699.0	2683.4	2679.6	2675.7	2671.7	2664.0	2656.2	2648.5	2644.5	2640.7
7.5°	2671.7	2660.2	2644.5	2640.7	2636.8	2625.1	2613.4	2605.7	2594.0	2590.2	2582.3
10°	2629.0	2613.4	2601.8	2590.2	2582.3	2570.6	2559.1	2547.4	2531.8	2527.8	2516.3
12.5°	2578.5	2559.1	2535.7	2531.8	2520.1	2504.6	2489.0	2477.3	2465.7	2457.9	2446.2
15°	2516.3	2496.8	2473.5	2461.8	2450.1	2438.4	2419.0	2403.5	2391.8	2380.1	2368.4
17.5°	2442.4	2419.0	2399.6	2387.9	2380.1	2360.7	2345.1	2325.6	2314.0	2302.3	2290.7
20°	2352.8	2333.4	2306.2	2294.5	2290.7	2275.1	2255.7	2247.9	2232.3	2220.6	2212.9
22.5°	2251.7	2232.3	2208.9	2201.2	2185.7	2177.8	2158.4	2150.6	2142.9	2131.2	2127.3
25°	2139.0	2119.5	2100.1	2096.3	2084.6	2076.7	2065.0	2053.5	2053.5	2041.8	2041.8
27.5°	2022.4	2002.8	1987.3	1979.6	1975.6	1967.9	1956.2	1952.3	1948.4	1944.5	1944.5
30°	1897.9	1874.5	1866.8	1862.9	1858.9	1851.2	1847.3	1839.5	1843.4	1847.3	1843.4
32.5°	1765.7	1757.8	1742.3	1734.6	1738.4	1734.6	1726.7	1734.6	1730.6	1738.4	1742.3
35°	1637.3	1629.5	1621.8	1621.8	1613.9	1613.9	1613.9	1617.9	1625.6	1629.5	1637.3
37.5°	1512.8	1501.2	1497.3	1493.4	1497.3	1497.3	1497.3	1505.1	1512.8	1520.6	1532.3
40°	1380.6	1372.9	1372.9	1372.9	1372.9	1384.6	1380.6	1388.4	1396.1	1407.8	1419.5
42.5°	1256.2	1256.2	1260.1	1260.1	1260.1	1260.1	1267.8	1279.5	1291.2	1302.9	1314.5
45°	1139.5	1139.5	1139.5	1147.3	1147.3	1151.1	1166.8	1174.5	1182.3	1193.9	1205.6
47.5°	1030.6	1030.6	1034.4	1038.4	1042.3	1050.0	1057.8	1069.5	1081.2	1088.9	1100.6
50°	929.5	933.3	941.2	948.9	948.9	952.9	964.5	972.3	980.1	991.7	995.6
52.5°	832.2	840.0	847.9	851.7	855.6	863.4	867.3	879.0	882.8	894.5	898.4
55°	742.8	746.8	758.3	762.3	762.3	770.0	777.9	785.6	797.3	797.3	805.1
57.5°	661.2	665.0	672.8	676.7	672.8	684.4	688.3	696.1	700.0	707.8	711.7
60°	579.5	587.3	591.2	591.2	595.0	598.9	606.7	606.7	614.4	622.3	622.3
62.5°	501.7	505.6	509.5	513.3	517.3	513.3	525.0	525.0	532.8	536.7	544.5
65°	427.9	431.7	431.7	435.6	435.6	439.4	439.4	443.4	447.3	455.0	458.9
67.5°	353.9	353.9	353.9	357.8	353.9	357.8	357.8	361.7	361.7	369.4	373.4
70°	287.8	284.0	280.0	280.0	280.0	280.0	276.1	280.0	280.0	284.0	284.0
72.5°	221.6	217.8	213.9	210.0	210.0	206.1	202.2	206.1	206.1	210.0	210.0
75°	167.3	159.5	159.5	159.5	155.6	155.6	155.6	159.5	159.5	159.5	163.3
77.5°	124.5	124.5	120.5	120.5	120.5	124.5	124.5	128.4	128.4	128.4	128.4
80°	93.3	97.3	97.3	97.3	97.3	101.1	101.1	101.1	101.1	105.0	105.0
82.5°	70.0	70.0	70.0	70.0	73.9	73.9	73.9	73.9	73.9	73.9	73.9
85°	42.8	46.6	46.6	42.8	46.6	46.6	46.6	46.6	46.6	46.6	46.6
87.5°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
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: P593804

CATALOG NUMBER: HC850D010-HM82555850-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9	2737.9
2.5°	2691.3	2691.3	2691.3	2691.3	2687.3	2687.3	2687.3	2683.4
5°	2632.9	2632.9	2632.9	2625.1	2629.0	2629.0	2621.2	2625.1
7.5°	2574.6	2570.6	2566.8	2566.8	2562.9	2559.1	2555.1	2559.1
10°	2508.4	2496.8	2496.8	2492.9	2492.9	2485.1	2485.1	2489.0
12.5°	2434.6	2426.7	2426.7	2422.9	2419.0	2415.2	2411.2	2411.2
15°	2360.7	2352.8	2349.0	2345.1	2341.3	2333.4	2337.3	2333.4
17.5°	2286.8	2275.1	2275.1	2271.3	2267.3	2259.6	2259.6	2255.7
20°	2201.2	2197.4	2189.5	2193.4	2189.5	2181.8	2177.8	2177.8
22.5°	2115.7	2115.7	2111.8	2111.8	2107.8	2104.0	2100.1	2100.1
25°	2033.9	2030.1	2033.9	2033.9	2022.4	2022.4	2022.4	2026.2
27.5°	1940.7	1944.5	1940.7	1940.7	1940.7	1940.7	1944.5	1940.7
30°	1847.3	1847.3	1847.3	1851.2	1858.9	1855.1	1855.1	1851.2
32.5°	1746.1	1750.1	1750.1	1754.0	1757.8	1765.7	1765.7	1769.5
35°	1645.1	1652.8	1656.7	1652.8	1664.5	1664.5	1672.3	1672.3
37.5°	1540.0	1544.0	1551.7	1555.6	1563.4	1567.3	1571.1	1571.1
40°	1427.2	1442.9	1446.8	1450.6	1462.3	1462.3	1466.2	1474.0
42.5°	1322.3	1337.8	1341.8	1345.6	1353.4	1365.0	1361.2	1368.9
45°	1221.1	1232.8	1236.7	1240.7	1252.2	1256.2	1256.2	1267.8
47.5°	1112.3	1120.0	1124.0	1131.7	1139.5	1147.3	1155.1	1151.1
50°	1003.4	1015.0	1022.9	1026.7	1038.4	1042.3	1046.1	1050.0
52.5°	906.2	913.9	917.8	921.8	933.3	937.3	941.2	948.9
55°	812.8	816.7	824.5	820.6	832.2	836.2	840.0	847.9
57.5°	719.5	723.4	727.2	727.2	735.1	742.8	746.8	750.6
60°	630.0	637.8	641.7	641.7	641.7	649.5	649.5	649.5
62.5°	548.4	548.4	552.2	552.2	560.1	560.1	560.1	560.1
65°	462.8	466.7	470.5	470.5	478.4	474.5	482.2	478.4
67.5°	373.4	373.4	381.1	381.1	377.2	381.1	381.1	381.1
70°	284.0	284.0	287.8	287.8	287.8	287.8	287.8	287.8
72.5°	210.0	210.0	210.0	213.9	210.0	210.0	213.9	210.0
75°	163.3	163.3	163.3	163.3	163.3	163.3	163.3	163.3
77.5°	128.4	128.4	132.2	132.2	132.2	132.2	132.2	132.2
80°	105.0	105.0	105.0	105.0	109.0	105.0	105.0	105.0
82.5°	77.7	73.9	77.7	73.9	77.7	77.7	77.7	77.7
85°	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
87.5°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
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)