

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: P584905

Luminaire Tested: **HC850D010-HM82555940-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584905
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-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: 5270.6 lumens
Efficiency: N/A
Efficacy: 109.8 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

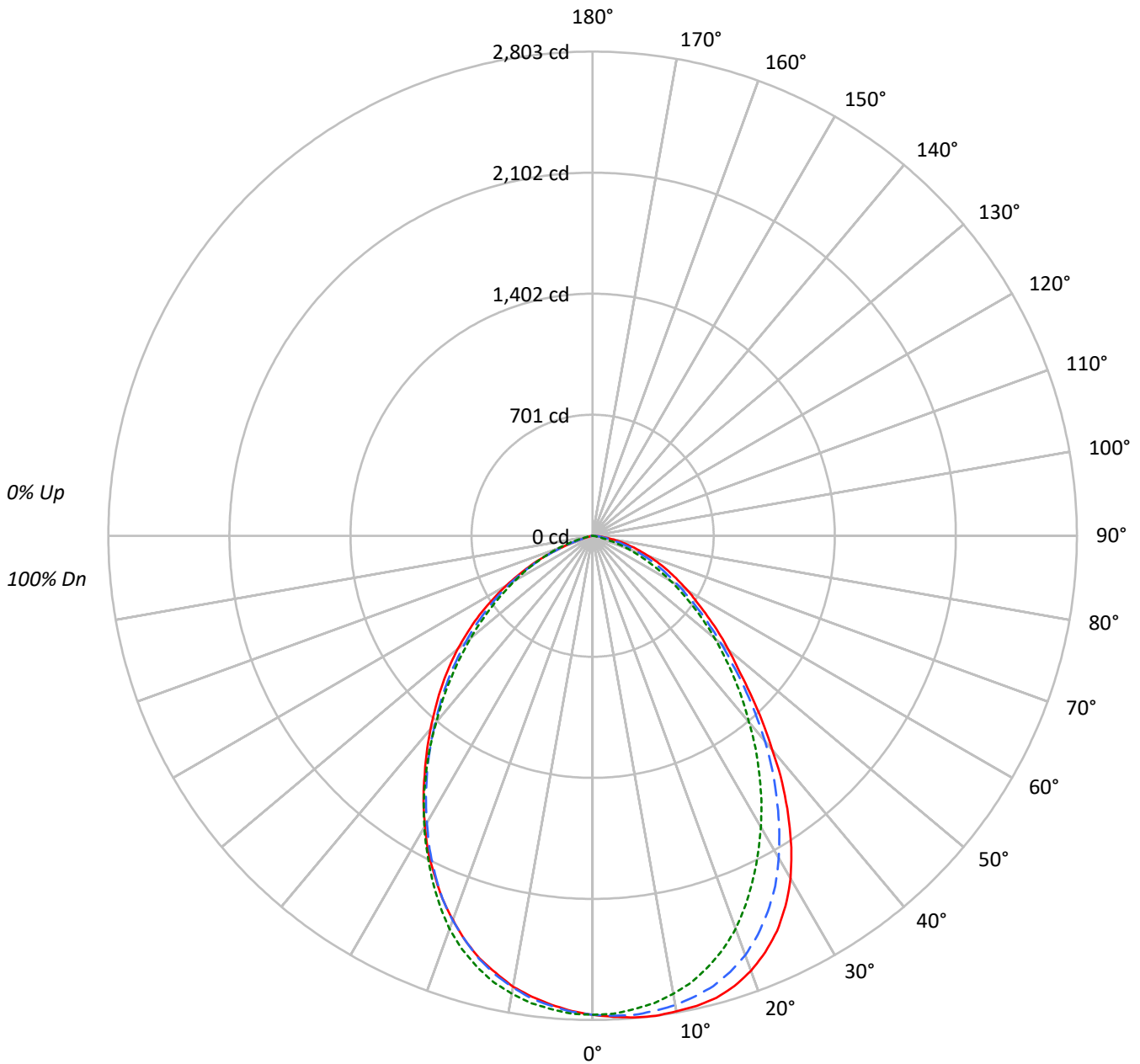
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77			77
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67			67
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59			59
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47			47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	85515	85515	85515
5°	86644	85152	84353
10°	87530	84283	83005
15°	88414	82501	80848
20°	87965	79462	77638
25°	85911	74703	73693
30°	81603	69348	69081
35°	74287	63276	63837
40°	65131	56633	58722
45°	56190	50377	53931
50°	49201	44226	48846
55°	43590	38015	42993
60°	39279	31965	35622
65°	35388	25669	27289
70°	31051	18699	15021
75°	26462	9710	3967
80°	20386	2628	657
85°	13126	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.6	5.0
10°-20°	735.5	14.0
20°-30°	1044.0	19.8
30°-40°	1098.9	20.9
40°-50°	934.9	17.7
50°-60°	675.6	12.8
60°-70°	384.3	7.3
70°-80°	121.1	2.3
80°-90°	14.7	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°	2041.2	38.7
0°-40°	3140.1	59.6
0°-60°	4750.5	90.1
0°-90°	5270.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5270.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2773	2773	2773	2773	2773	
5°	2799	2784	2751	2732	2725	267
15°	2770	2699	2584	2536	2532	780
25°	2525	2399	2196	2159	2166	1156
35°	1973	1859	1681	1670	1696	1228
45°	1288	1240	1155	1185	1237	1002
55°	811	752	707	748	800	731
65°	485	418	352	348	374	481
75°	222	170	82	37	33	239
85°	37	22	0	0	0	48
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°	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2
2.5°	2787.9	2791.7	2784.3	2784.3	2791.7	2784.3	2787.9	2787.9	2784.3	2784.3	2780.6
5°	2799.1	2795.4	2795.4	2795.4	2799.1	2791.7	2787.9	2791.7	2784.3	2784.3	2784.3
7.5°	2802.8	2802.8	2799.1	2795.4	2795.4	2795.4	2791.7	2787.9	2784.3	2776.8	2773.2
10°	2795.4	2795.4	2799.1	2791.7	2791.7	2784.3	2784.3	2776.8	2776.8	2769.5	2758.4
12.5°	2787.9	2784.3	2784.3	2776.8	2776.8	2769.5	2769.5	2758.4	2754.6	2743.5	2732.4
15°	2769.5	2765.7	2758.4	2754.6	2750.9	2747.3	2739.8	2736.2	2725.1	2710.2	2699.1
17.5°	2732.4	2728.7	2725.1	2717.6	2710.2	2706.5	2702.8	2691.7	2676.9	2665.8	2647.3
20°	2680.6	2676.9	2676.9	2665.8	2662.0	2650.9	2647.3	2632.5	2621.4	2599.2	2584.3
22.5°	2610.3	2614.0	2606.5	2599.2	2591.8	2580.7	2573.2	2558.5	2539.9	2517.7	2499.2
25°	2525.0	2528.8	2521.4	2513.9	2502.8	2495.5	2488.1	2465.9	2447.3	2421.5	2399.3
27.5°	2417.7	2417.7	2417.7	2410.4	2391.8	2388.2	2380.7	2358.5	2332.6	2310.3	2288.1
30°	2291.8	2288.1	2288.1	2277.0	2269.6	2254.8	2243.7	2225.2	2206.7	2180.8	2154.8
32.5°	2140.1	2143.7	2132.6	2125.2	2114.1	2114.1	2099.3	2084.4	2062.2	2036.4	2010.4
35°	1973.4	1977.1	1969.8	1966.0	1947.6	1943.8	1940.1	1921.6	1906.8	1888.3	1858.6
37.5°	1803.1	1799.4	1795.7	1795.7	1784.6	1777.2	1769.7	1758.6	1736.4	1721.7	1706.9
40°	1618.0	1618.0	1618.0	1614.3	1610.5	1603.2	1599.4	1592.1	1577.2	1562.5	1551.4
42.5°	1451.4	1451.4	1447.7	1443.9	1436.6	1440.2	1432.8	1425.5	1410.6	1399.5	1392.2
45°	1288.5	1288.5	1288.5	1292.2	1284.7	1273.6	1273.6	1266.3	1258.9	1251.4	1240.3
47.5°	1144.1	1155.2	1147.7	1144.1	1147.7	1133.0	1133.0	1125.5	1118.1	1110.8	1095.9
50°	1025.6	1025.6	1025.6	1018.2	1014.5	1014.5	1003.4	996.0	992.2	984.9	970.0
52.5°	918.2	910.8	910.8	907.1	903.4	896.0	896.0	888.6	873.8	866.3	855.2
55°	810.8	810.8	807.2	803.5	799.7	796.1	792.3	781.2	773.8	762.7	751.6
57.5°	714.6	722.0	718.2	710.9	703.5	703.5	696.0	688.7	677.6	666.4	655.3
60°	636.9	633.1	633.1	629.4	622.0	618.3	614.7	603.6	592.4	581.3	570.2
62.5°	555.4	555.4	555.4	547.9	540.5	536.8	533.2	525.7	511.0	499.9	492.4
65°	485.0	481.3	477.7	473.9	470.2	462.8	459.1	451.7	440.6	429.5	418.4
67.5°	414.6	411.0	411.0	407.3	396.2	392.4	392.4	381.3	370.2	359.1	348.0
70°	344.4	344.4	344.4	336.9	333.3	329.5	325.8	318.4	307.3	296.2	285.1
72.5°	285.1	281.4	281.4	277.6	266.5	262.9	259.2	251.8	240.7	233.2	225.9
75°	222.1	222.1	218.5	214.7	211.0	207.4	203.6	196.3	185.2	174.1	170.3
77.5°	170.3	166.6	166.6	163.0	155.5	151.9	151.9	144.4	133.3	125.9	118.5
80°	114.8	118.5	114.8	111.1	107.3	103.7	99.9	96.2	88.8	81.5	74.0
82.5°	70.4	74.0	70.4	70.4	66.6	62.9	62.9	55.5	51.8	48.2	44.4
85°	37.1	37.1	37.1	37.1	33.3	33.3	33.3	29.6	26.0	22.2	22.2
87.5°	11.1	14.8	11.1	11.1	11.1	11.1	11.1	11.1	7.4	7.4	7.4
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°	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2
2.5°	2784.3	2780.6	2776.8	2776.8	2776.8	2776.8	2776.8	2773.2	2769.5	2769.5	2769.5
5°	2776.8	2776.8	2776.8	2773.2	2769.5	2769.5	2762.0	2758.4	2754.6	2750.9	2747.3
7.5°	2769.5	2762.0	2758.4	2754.6	2750.9	2750.9	2743.5	2736.2	2736.2	2728.7	2721.3
10°	2747.3	2743.5	2736.2	2728.7	2725.1	2721.3	2714.0	2702.8	2699.1	2691.7	2684.3
12.5°	2721.3	2714.0	2706.5	2691.7	2688.0	2684.3	2669.5	2658.4	2650.9	2647.3	2628.7
15°	2688.0	2673.2	2662.0	2643.6	2639.8	2632.5	2621.4	2610.3	2595.4	2584.3	2576.9
17.5°	2628.7	2614.0	2595.4	2576.9	2569.6	2569.6	2551.0	2536.1	2517.7	2510.3	2495.5
20°	2558.5	2539.9	2525.0	2502.8	2491.7	2480.6	2469.5	2447.3	2432.6	2421.5	2402.9
22.5°	2477.0	2451.0	2432.6	2410.4	2391.8	2380.7	2362.2	2343.7	2325.1	2314.0	2299.2
25°	2373.3	2351.1	2321.4	2299.2	2288.1	2273.4	2251.1	2232.6	2214.1	2195.6	2188.1
27.5°	2258.5	2228.9	2203.0	2177.0	2165.9	2154.8	2129.0	2106.8	2091.9	2073.3	2066.0
30°	2132.6	2103.0	2073.3	2051.1	2040.0	2021.6	2006.7	1980.9	1962.3	1947.6	1929.0
32.5°	1988.2	1966.0	1940.1	1906.8	1899.4	1884.5	1862.3	1851.2	1829.0	1817.9	1803.1
35°	1832.8	1817.9	1792.0	1766.1	1755.0	1747.5	1729.1	1706.9	1692.0	1680.9	1673.5
37.5°	1684.6	1666.2	1640.2	1621.6	1614.3	1603.2	1581.0	1569.9	1555.0	1547.6	1532.8
40°	1525.4	1507.0	1488.4	1477.3	1466.2	1458.8	1443.9	1432.8	1418.0	1406.9	1403.3
42.5°	1370.0	1358.8	1344.0	1329.2	1325.5	1314.4	1306.9	1295.8	1284.7	1281.1	1270.0
45°	1229.2	1218.1	1203.3	1188.5	1184.8	1177.4	1173.7	1162.6	1155.2	1155.2	1155.2
47.5°	1088.6	1077.5	1062.6	1055.3	1058.9	1044.2	1044.2	1040.4	1033.0	1033.0	1036.7
50°	962.7	947.8	944.1	936.7	929.4	921.9	925.6	914.5	914.5	921.9	918.2
52.5°	844.1	829.4	825.7	818.3	814.6	814.6	810.8	810.8	807.2	810.8	810.8
55°	736.8	725.7	718.2	710.9	707.1	707.1	707.1	703.5	699.8	707.1	710.9
57.5°	640.5	636.9	629.4	618.3	614.7	610.9	607.2	607.2	607.2	607.2	610.9
60°	555.4	547.9	540.5	529.4	529.4	525.7	522.1	518.3	518.3	518.3	518.3
62.5°	481.3	470.2	459.1	451.7	448.0	444.3	440.6	433.2	433.2	433.2	433.2
65°	407.3	396.2	388.8	381.3	374.0	374.0	366.6	362.9	355.5	351.8	344.4
67.5°	336.9	329.5	322.1	311.0	307.3	303.6	296.2	292.5	281.4	277.6	274.0
70°	274.0	262.9	255.4	248.1	244.3	237.0	229.6	222.1	214.7	207.4	199.9
72.5°	214.7	203.6	196.3	188.8	181.4	181.4	170.3	163.0	151.9	144.4	133.3
75°	159.2	148.1	140.7	129.6	125.9	122.2	111.1	103.7	92.6	81.5	74.0
77.5°	107.3	99.9	92.6	81.5	74.0	74.0	62.9	55.5	48.2	37.1	33.3
80°	66.6	59.3	51.8	44.4	44.4	37.1	33.3	26.0	18.5	14.8	11.1
82.5°	37.1	33.3	29.6	22.2	22.2	18.5	14.8	11.1	7.4	3.7	3.7
85°	18.5	14.8	11.1	11.1	7.4	7.4	7.4	3.7	3.7	0.0	0.0
87.5°	7.4	3.7	3.7	3.7	3.7	3.7	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°	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2
2.5°	2765.7	2765.7	2762.0	2762.0	2762.0	2758.4	2762.0	2758.4	2758.4	2758.4	2762.0
5°	2750.9	2743.5	2743.5	2739.8	2739.8	2736.2	2739.8	2736.2	2732.4	2728.7	2732.4
7.5°	2721.3	2714.0	2710.2	2706.5	2706.5	2706.5	2702.8	2699.1	2702.8	2691.7	2699.1
10°	2680.6	2676.9	2669.5	2665.8	2662.0	2665.8	2662.0	2654.7	2654.7	2654.7	2650.9
12.5°	2628.7	2621.4	2617.6	2614.0	2606.5	2606.5	2610.3	2602.9	2602.9	2595.4	2595.4
15°	2565.8	2558.5	2551.0	2551.0	2543.6	2543.6	2539.9	2539.9	2536.1	2532.5	2532.5
17.5°	2488.1	2477.0	2469.5	2473.3	2469.5	2465.9	2465.9	2458.4	2454.8	2458.4	2458.4
20°	2395.5	2388.2	2380.7	2384.4	2377.0	2373.3	2377.0	2365.9	2369.6	2369.6	2369.6
22.5°	2291.8	2288.1	2277.0	2277.0	2269.6	2265.9	2269.6	2269.6	2273.4	2269.6	2269.6
25°	2177.0	2169.7	2162.3	2162.3	2158.6	2154.8	2158.6	2162.3	2158.6	2162.3	2162.3
27.5°	2054.9	2043.8	2043.8	2036.4	2036.4	2040.0	2036.4	2040.0	2043.8	2043.8	2051.1
30°	1921.6	1917.9	1914.2	1910.5	1910.5	1914.2	1914.2	1914.2	1917.9	1925.3	1925.3
32.5°	1795.7	1788.3	1780.9	1780.9	1788.3	1784.6	1788.3	1788.3	1795.7	1795.7	1803.1
35°	1658.7	1658.7	1651.3	1655.0	1655.0	1655.0	1655.0	1662.4	1669.8	1673.5	1680.9
37.5°	1532.8	1521.7	1525.4	1525.4	1529.2	1525.4	1536.5	1536.5	1543.9	1543.9	1551.4
40°	1395.8	1395.8	1399.5	1395.8	1399.5	1399.5	1406.9	1414.4	1418.0	1425.5	1429.1
42.5°	1266.3	1273.6	1266.3	1270.0	1273.6	1277.4	1281.1	1284.7	1299.6	1306.9	1318.0
45°	1147.7	1151.5	1155.2	1158.8	1155.2	1162.6	1166.3	1173.7	1184.8	1188.5	1192.1
47.5°	1033.0	1036.7	1040.4	1044.2	1044.2	1051.5	1055.3	1062.6	1070.0	1073.7	1077.5
50°	921.9	929.4	933.0	933.0	936.7	944.1	951.6	951.6	958.9	970.0	973.8
52.5°	821.9	821.9	829.4	833.0	836.8	836.8	847.9	851.6	855.2	862.7	870.1
55°	710.9	722.0	725.7	725.7	733.1	740.4	744.2	747.9	747.9	762.7	762.7
57.5°	614.7	618.3	625.8	625.8	625.8	636.9	636.9	644.2	648.0	651.6	659.1
60°	518.3	525.7	525.7	529.4	525.7	533.2	536.8	544.3	547.9	551.7	555.4
62.5°	429.5	429.5	433.2	433.2	433.2	433.2	440.6	440.6	448.0	451.7	455.4
65°	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	348.0	348.0	355.5
67.5°	266.5	262.9	255.4	259.2	255.4	255.4	251.8	251.8	255.4	255.4	262.9
70°	192.5	188.8	181.4	181.4	177.7	174.1	170.3	166.6	163.0	163.0	163.0
72.5°	125.9	118.5	107.3	103.7	103.7	96.2	88.8	85.1	85.1	85.1	85.1
75°	62.9	55.5	48.2	44.4	44.4	37.1	40.7	37.1	37.1	37.1	37.1
77.5°	26.0	18.5	14.8	14.8	14.8	11.1	11.1	11.1	11.1	11.1	11.1
80°	7.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
82.5°	3.7	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: P584905

CATALOG NUMBER: HC850D010-HM82555940-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2	2773.2
2.5°	2758.4	2758.4	2750.9	2754.6	2754.6	2754.6	2754.6	2754.6
5°	2725.1	2728.7	2725.1	2728.7	2728.7	2725.1	2725.1	2725.1
7.5°	2691.7	2695.4	2691.7	2695.4	2695.4	2695.4	2691.7	2691.7
10°	2650.9	2650.9	2650.9	2650.9	2650.9	2647.3	2650.9	2650.9
12.5°	2595.4	2595.4	2595.4	2599.2	2599.2	2595.4	2595.4	2591.8
15°	2536.1	2528.8	2532.5	2536.1	2532.5	2532.5	2532.5	2532.5
17.5°	2454.8	2458.4	2454.8	2454.8	2454.8	2454.8	2458.4	2454.8
20°	2369.6	2369.6	2373.3	2369.6	2369.6	2369.6	2369.6	2365.9
22.5°	2273.4	2269.6	2269.6	2273.4	2273.4	2269.6	2273.4	2273.4
25°	2165.9	2169.7	2165.9	2165.9	2169.7	2169.7	2169.7	2165.9
27.5°	2051.1	2054.9	2058.6	2054.9	2054.9	2054.9	2058.6	2062.2
30°	1932.7	1940.1	1932.7	1932.7	1940.1	1936.4	1940.1	1940.1
32.5°	1806.8	1817.9	1810.5	1817.9	1817.9	1821.7	1817.9	1821.7
35°	1680.9	1692.0	1692.0	1692.0	1695.8	1699.5	1699.5	1695.8
37.5°	1562.5	1566.1	1566.1	1573.6	1577.2	1581.0	1581.0	1577.2
40°	1440.2	1447.7	1451.4	1451.4	1451.4	1458.8	1466.2	1458.8
42.5°	1321.8	1325.5	1329.2	1329.2	1336.6	1340.3	1344.0	1344.0
45°	1207.0	1214.4	1218.1	1221.8	1225.6	1232.9	1229.2	1236.7
47.5°	1088.6	1099.7	1103.3	1107.0	1114.4	1118.1	1121.9	1125.5
50°	981.1	988.5	988.5	996.0	1007.1	1007.1	1014.5	1018.2
52.5°	873.8	877.5	881.2	884.9	892.3	899.7	899.7	907.1
55°	770.1	773.8	773.8	777.5	781.2	796.1	799.7	799.7
57.5°	662.7	662.7	670.2	673.8	677.6	684.9	684.9	684.9
60°	559.1	562.8	562.8	566.5	570.2	577.6	581.3	577.6
62.5°	455.4	459.1	459.1	462.8	470.2	473.9	470.2	470.2
65°	359.1	362.9	362.9	366.6	374.0	374.0	370.2	374.0
67.5°	262.9	262.9	262.9	262.9	262.9	262.9	262.9	262.9
70°	166.6	163.0	159.2	163.0	163.0	163.0	159.2	166.6
72.5°	81.5	85.1	85.1	85.1	85.1	85.1	85.1	81.5
75°	37.1	37.1	33.3	33.3	33.3	37.1	37.1	33.3
77.5°	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
80°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
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)