

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: P593766

Luminaire Tested: **HC845D010-HM82555850-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593766
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-HM82555850-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5257.4 lumens
Efficiency: N/A
Efficacy: 119.5 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

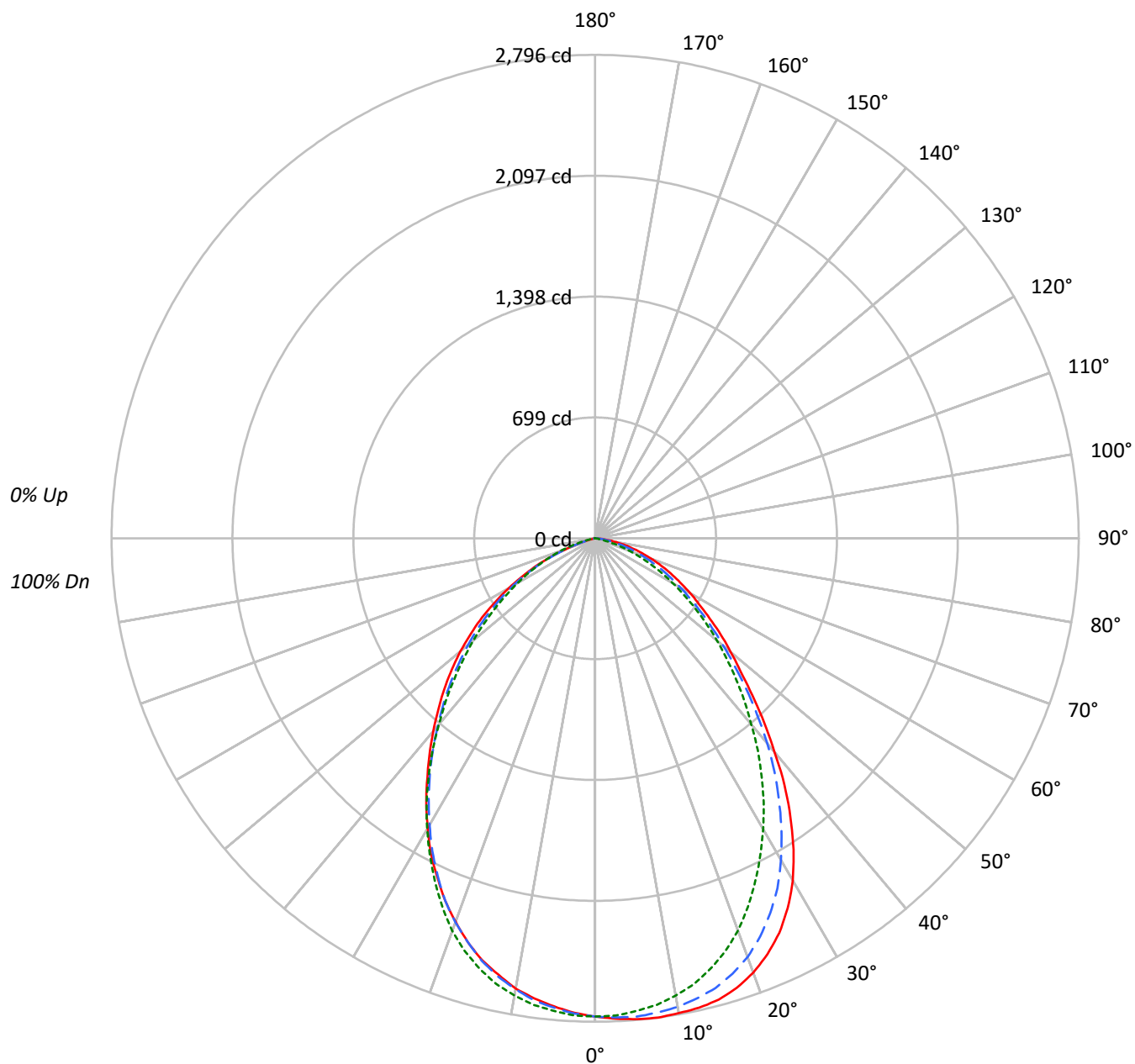
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10		50	30	10			50	30	10			50
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	111	107	104	101	108	105	102	99		101	98	96			97	95	93			93
2	103	96	90	85	100	94	89	84		91	86	82			87	84	81			85
3	95	86	79	73	93	84	78	73		82	76	72			79	74	70			76
4	88	77	70	64	86	76	69	64		74	68	63			72	66	62			69
5	81	70	62	56	80	69	62	56		67	61	56			65	59	55			63
6	76	64	56	50	74	63	55	50		61	55	50			60	54	49			58
7	71	59	51	45	69	58	50	45		56	50	45			55	49	44			54
8	66	54	46	41	65	53	46	41		52	45	40			51	45	40			50
9	62	50	42	37	61	49	42	37		48	42	37			47	41	37			46
10	58	46	39	34	57	46	39	34		45	38	34			44	38	34			43

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	85302	85302	85302
5°	86427	84941	84139
10°	87314	84073	82801
15°	88190	82297	80647
20°	87748	79262	77444
25°	85700	74516	73509
30°	81404	69170	68906
35°	74103	63118	63675
40°	64966	56496	58574
45°	56051	50246	53792
50°	49081	44116	48726
55°	43482	37923	42891
60°	39181	31891	35536
65°	35308	25596	27216
70°	30970	18645	14984
75°	26402	9686	3956
80°	20333	2628	639
85°	13055	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.0	5.0
10°-20°	733.7	14.0
20°-30°	1041.4	19.8
30°-40°	1096.2	20.9
40°-50°	932.5	17.7
50°-60°	673.9	12.8
60°-70°	383.3	7.3
70°-80°	120.8	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°	2036.1	38.7
0°-40°	3132.3	59.6
0°-60°	4738.7	90.1
0°-90°	5257.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5257.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2766	2766	2766	2766	2766	
5°	2792	2777	2744	2726	2718	266
15°	2762	2692	2578	2530	2526	778
25°	2519	2393	2190	2153	2160	1154
35°	1968	1854	1677	1666	1692	1225
45°	1285	1237	1152	1182	1234	999
55°	809	750	705	746	798	729
65°	484	417	351	347	373	480
75°	222	170	81	37	33	238
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°	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3
2.5°	2781.1	2784.7	2777.3	2777.3	2784.7	2777.3	2781.1	2781.1	2777.3	2777.3	2773.7
5°	2792.1	2788.5	2788.5	2788.5	2792.1	2784.7	2781.1	2784.7	2777.3	2777.3	2777.3
7.5°	2795.8	2795.8	2792.1	2788.5	2788.5	2788.5	2784.7	2781.1	2777.3	2769.9	2766.3
10°	2788.5	2788.5	2792.1	2784.7	2784.7	2777.3	2777.3	2769.9	2769.9	2762.5	2751.5
12.5°	2781.1	2777.3	2777.3	2769.9	2769.9	2762.5	2762.5	2751.5	2747.8	2736.7	2725.6
15°	2762.5	2758.9	2751.5	2747.8	2744.1	2740.4	2733.0	2729.3	2718.2	2703.4	2692.4
17.5°	2725.6	2721.9	2718.2	2710.8	2703.4	2699.8	2696.0	2685.0	2670.2	2659.2	2640.7
20°	2674.0	2670.2	2670.2	2659.2	2655.4	2644.4	2640.7	2625.9	2614.9	2592.7	2577.9
22.5°	2603.7	2607.5	2600.1	2592.7	2585.3	2574.1	2566.8	2552.1	2533.6	2511.4	2493.0
25°	2518.8	2522.5	2515.1	2507.8	2496.6	2489.2	2481.8	2459.7	2441.2	2415.4	2393.3
27.5°	2411.7	2411.7	2411.7	2404.3	2385.9	2382.1	2374.7	2352.6	2326.8	2304.6	2282.4
30°	2286.2	2282.4	2282.4	2271.4	2264.0	2249.2	2238.1	2219.7	2201.1	2175.3	2149.5
32.5°	2134.7	2138.4	2127.4	2120.0	2108.8	2108.8	2094.0	2079.3	2057.1	2031.3	2005.5
35°	1968.5	1972.2	1964.8	1961.1	1942.6	1939.0	1935.2	1916.8	1902.0	1883.6	1854.0
37.5°	1798.6	1794.9	1791.3	1791.3	1780.1	1772.8	1765.4	1754.3	1732.2	1717.4	1702.6
40°	1613.9	1613.9	1613.9	1610.3	1606.5	1599.2	1595.5	1588.1	1573.3	1558.6	1547.4
42.5°	1447.7	1447.7	1444.1	1440.3	1432.9	1436.7	1429.3	1421.9	1407.1	1396.1	1388.7
45°	1285.3	1285.3	1285.3	1288.9	1281.5	1270.5	1270.5	1263.1	1255.7	1248.3	1237.3
47.5°	1141.2	1152.2	1145.0	1141.2	1145.0	1130.2	1130.2	1122.8	1115.4	1108.0	1093.2
50°	1023.1	1023.1	1023.1	1015.7	1011.9	1011.9	1000.9	993.5	989.8	982.4	967.6
52.5°	915.9	908.5	908.5	904.9	901.1	893.8	893.8	886.4	871.7	864.3	853.1
55°	808.8	808.8	805.1	801.4	797.8	794.0	790.4	779.2	771.8	760.8	749.8
57.5°	712.8	720.2	716.5	709.1	701.7	701.7	694.3	686.9	675.9	664.7	653.7
60°	635.3	631.5	631.5	627.9	620.5	616.8	613.1	602.0	591.0	579.8	568.8
62.5°	554.0	554.0	554.0	546.6	539.2	535.5	531.8	524.4	509.7	498.6	491.3
65°	483.9	480.1	476.5	472.7	469.1	461.7	457.9	450.5	439.5	428.4	417.4
67.5°	413.6	410.0	410.0	406.2	395.2	391.4	391.4	380.4	369.4	358.2	347.2
70°	343.5	343.5	343.5	336.1	332.4	328.7	325.0	317.6	306.5	295.5	284.3
72.5°	284.3	280.7	280.7	276.9	265.9	262.2	258.5	251.1	240.1	232.7	225.3
75°	221.6	221.6	217.9	214.2	210.6	206.8	203.2	195.8	184.6	173.6	169.9
77.5°	169.9	166.2	166.2	162.5	155.1	151.4	151.4	144.0	132.9	125.6	118.2
80°	114.5	118.2	114.5	110.8	107.1	103.5	99.7	96.1	88.7	81.3	73.9
82.5°	70.1	73.9	70.1	70.1	66.5	62.8	62.8	55.4	51.7	48.0	44.3
85°	36.9	36.9	36.9	36.9	33.2	33.2	33.2	29.6	25.8	22.2	22.2
87.5°	11.0	14.8	11.0	11.0	11.0	11.0	11.0	11.0	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°	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3
2.5°	2777.3	2773.7	2769.9	2769.9	2769.9	2769.9	2769.9	2766.3	2762.5	2762.5	2762.5
5°	2769.9	2769.9	2769.9	2766.3	2762.5	2762.5	2755.1	2751.5	2747.8	2744.1	2740.4
7.5°	2762.5	2755.1	2751.5	2747.8	2744.1	2744.1	2736.7	2729.3	2729.3	2721.9	2714.6
10°	2740.4	2736.7	2729.3	2721.9	2718.2	2714.6	2707.2	2696.0	2692.4	2685.0	2677.6
12.5°	2714.6	2707.2	2699.8	2685.0	2681.4	2677.6	2662.8	2651.8	2644.4	2640.7	2622.2
15°	2681.4	2666.6	2655.4	2637.0	2633.3	2625.9	2614.9	2603.7	2588.9	2577.9	2570.5
17.5°	2622.2	2607.5	2588.9	2570.5	2563.1	2563.1	2544.7	2529.9	2511.4	2504.0	2489.2
20°	2552.1	2533.6	2518.8	2496.6	2485.6	2474.4	2463.4	2441.2	2426.5	2415.4	2396.9
22.5°	2470.8	2444.9	2426.5	2404.3	2385.9	2374.7	2356.3	2337.8	2319.4	2308.2	2293.6
25°	2367.3	2345.2	2315.6	2293.6	2282.4	2267.6	2245.5	2227.1	2208.5	2190.1	2182.7
27.5°	2252.9	2223.3	2197.5	2171.7	2160.5	2149.5	2123.6	2101.4	2086.6	2068.2	2060.8
30°	2127.4	2097.8	2068.2	2046.1	2035.0	2016.5	2001.7	1975.9	1957.4	1942.6	1924.2
32.5°	1983.3	1961.1	1935.2	1902.0	1894.6	1879.8	1857.7	1846.7	1824.5	1813.3	1798.6
35°	1828.1	1813.3	1787.5	1761.7	1750.6	1743.2	1724.8	1702.6	1687.8	1676.7	1669.3
37.5°	1680.4	1662.0	1636.1	1617.7	1610.3	1599.2	1577.0	1566.0	1551.2	1543.8	1529.0
40°	1521.6	1503.2	1484.7	1473.6	1462.5	1455.1	1440.3	1429.3	1414.5	1403.5	1399.7
42.5°	1366.5	1355.4	1340.6	1325.8	1322.2	1311.1	1303.7	1292.6	1281.5	1277.9	1266.8
45°	1226.1	1215.1	1200.3	1185.6	1181.8	1174.4	1170.8	1159.6	1152.2	1152.2	1152.2
47.5°	1085.8	1074.7	1059.9	1052.5	1056.3	1041.5	1041.5	1037.8	1030.4	1030.4	1034.1
50°	960.2	945.4	941.8	934.4	927.0	919.6	923.3	912.2	912.2	919.6	915.9
52.5°	842.1	827.3	823.6	816.2	812.5	812.5	808.8	808.8	805.1	808.8	808.8
55°	735.0	723.9	716.5	709.1	705.4	705.4	705.4	701.7	698.1	705.4	709.1
57.5°	638.9	635.3	627.9	616.8	613.1	609.4	605.7	605.7	605.7	605.7	609.4
60°	554.0	546.6	539.2	528.1	528.1	524.4	520.7	517.1	517.1	517.1	517.1
62.5°	480.1	469.1	457.9	450.5	446.9	443.2	439.5	432.1	432.1	432.1	432.1
65°	406.2	395.2	387.8	380.4	373.0	373.0	365.6	362.0	354.6	350.8	343.5
67.5°	336.1	328.7	321.3	310.3	306.5	302.9	295.5	291.7	280.7	276.9	273.3
70°	273.3	262.2	254.9	247.5	243.7	236.4	229.0	221.6	214.2	206.8	199.4
72.5°	214.2	203.2	195.8	188.4	181.0	181.0	169.9	162.5	151.4	144.0	132.9
75°	158.8	147.7	140.3	129.3	125.6	121.9	110.8	103.5	92.3	81.3	73.9
77.5°	107.1	99.7	92.3	81.3	73.9	73.9	62.8	55.4	48.0	36.9	33.2
80°	66.5	59.1	51.7	44.3	44.3	36.9	33.2	25.8	18.4	14.8	11.0
82.5°	36.9	33.2	29.6	22.2	22.2	18.4	14.8	11.0	7.4	3.6	3.6
85°	18.4	14.8	11.0	11.0	7.4	7.4	7.4	3.6	3.6	0.0	0.0
87.5°	7.4	3.6	3.6	3.6	3.6	3.6	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°	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3
2.5°	2758.9	2758.9	2755.1	2755.1	2755.1	2751.5	2755.1	2751.5	2751.5	2751.5	2755.1
5°	2744.1	2736.7	2736.7	2733.0	2733.0	2729.3	2733.0	2729.3	2725.6	2721.9	2725.6
7.5°	2714.6	2707.2	2703.4	2699.8	2699.8	2699.8	2696.0	2692.4	2696.0	2685.0	2692.4
10°	2674.0	2670.2	2662.8	2659.2	2655.4	2659.2	2655.4	2648.0	2648.0	2648.0	2644.4
12.5°	2622.2	2614.9	2611.1	2607.5	2600.1	2600.1	2603.7	2596.3	2596.3	2588.9	2588.9
15°	2559.5	2552.1	2544.7	2544.7	2537.3	2537.3	2533.6	2533.6	2529.9	2526.2	2526.2
17.5°	2481.8	2470.8	2463.4	2467.1	2463.4	2459.7	2459.7	2452.3	2448.6	2452.3	2452.3
20°	2389.5	2382.1	2374.7	2378.5	2371.1	2367.3	2371.1	2360.0	2363.7	2363.7	2363.7
22.5°	2286.2	2282.4	2271.4	2271.4	2264.0	2260.3	2264.0	2264.0	2267.6	2264.0	2264.0
25°	2171.7	2164.3	2156.9	2156.9	2153.2	2149.5	2153.2	2156.9	2153.2	2156.9	2156.9
27.5°	2049.7	2038.7	2038.7	2031.3	2031.3	2035.0	2031.3	2035.0	2038.7	2038.7	2046.1
30°	1916.8	1913.2	1909.4	1905.8	1905.8	1909.4	1909.4	1909.4	1913.2	1920.4	1920.4
32.5°	1791.3	1783.9	1776.5	1776.5	1783.9	1780.1	1783.9	1783.9	1791.3	1791.3	1798.6
35°	1654.6	1654.6	1647.2	1650.9	1650.9	1650.9	1650.9	1658.3	1665.7	1669.3	1676.7
37.5°	1529.0	1518.0	1521.6	1521.6	1525.4	1521.6	1532.8	1532.8	1540.0	1540.0	1547.4
40°	1392.4	1392.4	1396.1	1392.4	1396.1	1396.1	1403.5	1410.8	1414.5	1421.9	1425.5
42.5°	1263.1	1270.5	1263.1	1266.8	1270.5	1274.2	1277.9	1281.5	1296.3	1303.7	1314.8
45°	1145.0	1148.6	1152.2	1156.0	1152.2	1159.6	1163.4	1170.8	1181.8	1185.6	1189.2
47.5°	1030.4	1034.1	1037.8	1041.5	1041.5	1048.9	1052.5	1059.9	1067.3	1071.1	1074.7
50°	919.6	927.0	930.7	930.7	934.4	941.8	949.2	949.2	956.6	967.6	971.4
52.5°	819.9	819.9	827.3	831.0	834.7	834.7	845.7	849.5	853.1	860.5	867.9
55°	709.1	720.2	723.9	723.9	731.2	738.6	742.4	746.0	746.0	760.8	760.8
57.5°	613.1	616.8	624.2	624.2	624.2	635.3	635.3	642.6	646.3	650.0	657.3
60°	517.1	524.4	524.4	528.1	524.4	531.8	535.5	542.9	546.6	550.3	554.0
62.5°	428.4	428.4	432.1	432.1	432.1	432.1	439.5	439.5	446.9	450.5	454.3
65°	343.5	343.5	343.5	343.5	343.5	343.5	343.5	343.5	347.2	347.2	354.6
67.5°	265.9	262.2	254.9	258.5	254.9	254.9	251.1	251.1	254.9	254.9	262.2
70°	192.0	188.4	181.0	181.0	177.2	173.6	169.9	166.2	162.5	162.5	162.5
72.5°	125.6	118.2	107.1	103.5	103.5	96.1	88.7	84.9	84.9	84.9	84.9
75°	62.8	55.4	48.0	44.3	44.3	36.9	40.6	36.9	36.9	36.9	36.9
77.5°	25.8	18.4	14.8	14.8	14.8	11.0	11.0	11.0	11.0	11.0	11.0
80°	7.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
82.5°	3.6	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: P593766

CATALOG NUMBER: HC845D010-HM82555850-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3	2766.3
2.5°	2751.5	2751.5	2744.1	2747.8	2747.8	2747.8	2747.8	2747.8
5°	2718.2	2721.9	2718.2	2721.9	2721.9	2718.2	2718.2	2718.2
7.5°	2685.0	2688.6	2685.0	2688.6	2688.6	2688.6	2685.0	2685.0
10°	2644.4	2644.4	2644.4	2644.4	2644.4	2640.7	2644.4	2644.4
12.5°	2588.9	2588.9	2588.9	2592.7	2592.7	2588.9	2588.9	2585.3
15°	2529.9	2522.5	2526.2	2529.9	2526.2	2526.2	2526.2	2526.2
17.5°	2448.6	2452.3	2448.6	2448.6	2448.6	2448.6	2452.3	2448.6
20°	2363.7	2363.7	2367.3	2363.7	2363.7	2363.7	2363.7	2360.0
22.5°	2267.6	2264.0	2264.0	2267.6	2267.6	2264.0	2267.6	2267.6
25°	2160.5	2164.3	2160.5	2160.5	2164.3	2164.3	2164.3	2160.5
27.5°	2046.1	2049.7	2053.5	2049.7	2049.7	2049.7	2053.5	2057.1
30°	1927.8	1935.2	1927.8	1927.8	1935.2	1931.6	1935.2	1935.2
32.5°	1802.3	1813.3	1806.0	1813.3	1813.3	1817.1	1813.3	1817.1
35°	1676.7	1687.8	1687.8	1687.8	1691.5	1695.2	1695.2	1691.5
37.5°	1558.6	1562.2	1562.2	1569.6	1573.3	1577.0	1577.0	1573.3
40°	1436.7	1444.1	1447.7	1447.7	1447.7	1455.1	1462.5	1455.1
42.5°	1318.5	1322.2	1325.8	1325.8	1333.2	1337.0	1340.6	1340.6
45°	1204.0	1211.4	1215.1	1218.7	1222.5	1229.9	1226.1	1233.5
47.5°	1085.8	1096.9	1100.6	1104.3	1111.7	1115.4	1119.0	1122.8
50°	978.8	986.1	986.1	993.5	1004.6	1004.6	1011.9	1015.7
52.5°	871.7	875.3	879.0	882.7	890.1	897.5	897.5	904.9
55°	768.2	771.8	771.8	775.6	779.2	794.0	797.8	797.8
57.5°	661.1	661.1	668.5	672.1	675.9	683.3	683.3	683.3
60°	557.6	561.4	561.4	565.0	568.8	576.2	579.8	576.2
62.5°	454.3	457.9	457.9	461.7	469.1	472.7	469.1	469.1
65°	358.2	362.0	362.0	365.6	373.0	373.0	369.4	373.0
67.5°	262.2	262.2	262.2	262.2	262.2	262.2	262.2	262.2
70°	166.2	162.5	158.8	162.5	162.5	162.5	158.8	166.2
72.5°	81.3	84.9	84.9	84.9	84.9	84.9	84.9	81.3
75°	36.9	36.9	33.2	33.2	33.2	36.9	36.9	33.2
77.5°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
80°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
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)