

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: P593770

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593770
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: HC845D010-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: 5227.9 lumens
Efficiency: N/A
Efficacy: 118.8 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

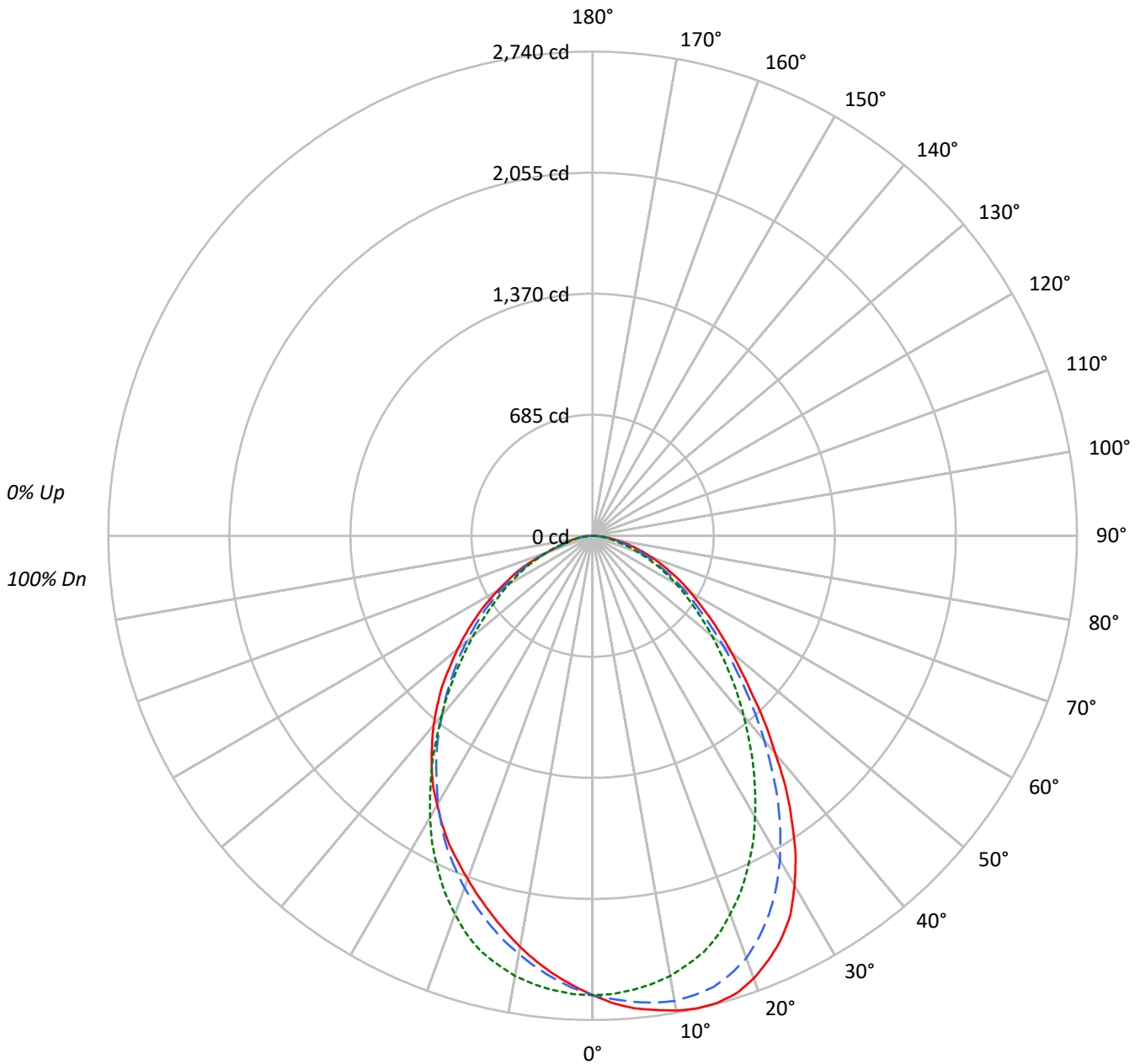
Input Watts (W): 44
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	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°	80156	80156	80156
5°	83090	79886	77147
10°	85435	79194	73990
15°	87341	77796	70721
20°	87479	74757	67849
25°	85802	70600	65449
30°	81379	65470	62579
35°	73944	59628	59768
40°	64652	53506	56331
45°	56033	47660	52488
50°	49062	42331	47824
55°	43670	37515	43273
60°	39390	33704	38027
65°	35563	29631	33141
70°	31961	24965	24632
75°	28165	19790	18479
80°	23600	16391	17705
85°	18292	14365	15674



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.2	4.7
10°-20°	690.7	13.2
20°-30°	987.1	18.9
30°-40°	1048.8	20.1
40°-50°	903.0	17.3
50°-60°	675.1	12.9
60°-70°	430.6	8.2
70°-80°	196.0	3.7
80°-90°	51.4	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°	1923.0	36.8
0°-40°	2971.8	56.8
0°-60°	4549.9	87.0
0°-90°	5227.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5227.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2599	2599	2599	2599	2599	
5°	2684	2647	2581	2514	2492	257
15°	2736	2644	2437	2271	2215	771
25°	2522	2363	2075	1950	1924	1154
35°	1964	1828	1584	1543	1588	1223
45°	1285	1215	1093	1122	1204	999
55°	812	746	698	757	805	730
65°	487	432	406	425	454	486
75°	236	203	166	151	155	251
85°	52	44	41	44	44	62
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°	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4
2.5°	2647.3	2640.0	2643.6	2640.0	2643.6	2643.6	2636.2	2636.2	2636.2	2636.2	2625.2
5°	2684.3	2680.5	2680.5	2676.9	2673.1	2676.9	2673.1	2669.5	2662.1	2658.4	2647.3
7.5°	2706.5	2706.5	2706.5	2706.5	2702.7	2699.1	2695.3	2687.9	2680.5	2673.1	2665.8
10°	2728.5	2732.3	2728.5	2724.9	2721.1	2713.7	2710.1	2702.7	2691.7	2680.5	2673.1
12.5°	2739.7	2739.7	2735.9	2735.9	2728.5	2724.9	2713.7	2702.7	2691.7	2680.5	2662.1
15°	2735.9	2735.9	2732.3	2728.5	2717.5	2713.7	2706.5	2695.3	2676.9	2662.1	2643.6
17.5°	2713.7	2710.1	2702.7	2702.7	2687.9	2684.3	2676.9	2662.1	2643.6	2621.5	2599.4
20°	2665.8	2665.8	2662.1	2658.4	2643.6	2632.6	2625.2	2606.8	2592.0	2566.1	2544.0
22.5°	2599.4	2606.8	2599.4	2592.0	2573.4	2569.8	2558.7	2536.6	2514.4	2484.9	2459.1
25°	2521.8	2518.1	2514.4	2507.1	2492.3	2484.9	2470.1	2447.9	2425.8	2392.6	2363.0
27.5°	2422.1	2407.3	2407.3	2392.6	2381.5	2370.4	2363.0	2340.8	2311.4	2285.5	2248.5
30°	2285.5	2289.2	2270.7	2267.1	2248.5	2241.1	2226.5	2204.3	2178.4	2148.9	2119.4
32.5°	2137.8	2126.8	2126.8	2112.0	2097.2	2086.1	2082.4	2056.6	2034.5	2004.9	1975.3
35°	1964.3	1964.3	1953.2	1949.5	1934.7	1927.4	1916.2	1901.6	1875.6	1849.8	1827.7
37.5°	1794.5	1787.1	1783.3	1775.9	1764.9	1753.9	1753.9	1727.9	1724.3	1694.8	1665.2
40°	1606.1	1613.5	1606.1	1595.0	1591.4	1584.0	1580.3	1565.5	1554.5	1528.5	1510.1
42.5°	1447.4	1440.0	1440.0	1436.2	1421.6	1421.6	1414.2	1406.8	1388.2	1380.9	1358.7
45°	1284.9	1292.3	1281.2	1284.9	1270.1	1270.1	1270.1	1255.3	1240.6	1229.5	1214.8
47.5°	1144.6	1148.2	1148.2	1137.2	1133.5	1133.5	1126.1	1118.7	1107.7	1092.9	1081.9
50°	1022.7	1026.5	1019.1	1015.3	1008.0	1004.3	1004.3	989.5	982.2	967.4	960.0
52.5°	912.0	912.0	908.3	908.3	897.2	897.2	889.8	878.7	871.4	864.0	845.5
55°	812.3	812.3	808.5	804.9	804.9	793.9	790.1	779.1	771.7	756.9	745.8
57.5°	716.4	720.0	716.4	712.6	709.0	705.2	697.8	686.8	679.4	668.3	660.9
60°	638.7	638.7	635.1	631.4	624.0	620.3	616.6	609.3	598.1	590.7	579.7
62.5°	564.9	561.2	557.5	553.9	546.5	546.5	539.1	531.7	520.6	513.2	505.8
65°	487.4	487.4	483.6	483.6	480.0	472.6	469.0	465.2	450.4	446.8	432.0
67.5°	417.2	420.9	413.5	413.5	406.1	406.1	402.5	391.4	387.7	380.3	372.9
70°	354.5	354.5	354.5	350.7	343.3	339.7	335.9	328.6	324.9	317.5	310.1
72.5°	291.7	291.7	288.0	288.0	284.3	280.6	276.9	269.6	269.6	262.2	254.8
75°	236.4	236.4	232.6	229.0	225.2	225.2	221.6	217.8	210.4	206.8	203.0
77.5°	180.9	180.9	180.9	177.2	173.5	173.5	173.5	166.1	158.8	158.8	155.1
80°	132.9	132.9	129.3	129.3	125.5	125.5	125.5	121.9	118.1	114.5	110.7
82.5°	88.6	88.6	88.6	88.6	84.9	84.9	84.9	81.2	77.5	77.5	77.5
85°	51.7	51.7	51.7	51.7	48.0	48.0	48.0	48.0	48.0	44.3	44.3
87.5°	22.2	18.4	22.2	18.4	22.2	18.4	22.2	18.4	18.4	18.4	18.4
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°	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4
2.5°	2628.9	2625.2	2621.5	2617.8	2617.8	2614.1	2606.8	2603.0	2599.4	2595.6	2595.6
5°	2643.6	2640.0	2632.6	2625.2	2621.5	2614.1	2606.8	2599.4	2592.0	2580.8	2577.2
7.5°	2654.7	2643.6	2636.2	2621.5	2617.8	2610.4	2599.4	2588.2	2573.4	2558.7	2547.6
10°	2654.7	2640.0	2628.9	2610.4	2603.0	2595.6	2580.8	2562.4	2544.0	2529.2	2510.7
12.5°	2647.3	2628.9	2610.4	2592.0	2580.8	2569.8	2547.6	2529.2	2507.1	2484.9	2470.1
15°	2621.5	2599.4	2577.2	2555.0	2544.0	2529.2	2507.1	2481.1	2459.1	2436.9	2411.0
17.5°	2573.4	2551.3	2525.5	2499.7	2484.9	2473.7	2440.5	2422.1	2388.9	2366.8	2344.6
20°	2510.7	2484.9	2451.7	2425.8	2407.3	2396.2	2370.4	2337.2	2311.4	2278.1	2255.9
22.5°	2429.5	2396.2	2363.0	2337.2	2318.7	2304.0	2270.7	2237.5	2215.3	2185.8	2160.0
25°	2333.4	2300.3	2267.1	2230.1	2211.7	2196.9	2167.4	2137.8	2108.2	2075.0	2052.9
27.5°	2219.1	2182.1	2152.6	2119.4	2100.8	2078.7	2045.5	2015.9	1986.5	1964.3	1934.7
30°	2093.5	2052.9	2023.3	1990.1	1971.7	1953.2	1920.0	1890.4	1864.6	1838.7	1824.0
32.5°	1942.1	1912.6	1883.0	1849.8	1835.0	1824.0	1790.7	1761.1	1731.7	1709.5	1698.4
35°	1798.1	1764.9	1739.1	1709.5	1691.0	1680.0	1650.4	1624.6	1609.8	1584.0	1569.2
37.5°	1646.8	1620.9	1591.4	1561.8	1550.7	1539.7	1517.5	1491.7	1469.5	1451.0	1443.6
40°	1488.0	1465.8	1440.0	1421.6	1410.4	1399.4	1380.9	1362.4	1347.7	1329.2	1321.9
42.5°	1336.6	1321.9	1299.7	1277.5	1266.5	1262.7	1240.6	1225.8	1218.4	1211.0	1203.6
45°	1200.0	1177.8	1163.0	1148.2	1137.2	1129.8	1118.7	1107.7	1100.3	1092.9	1085.5
47.5°	1067.1	1048.5	1033.9	1022.7	1011.7	1008.0	1000.6	989.5	982.2	982.2	982.2
50°	945.2	930.4	915.6	908.3	904.6	897.2	889.8	886.1	882.4	882.4	882.4
52.5°	838.1	823.3	812.3	804.9	804.9	797.5	790.1	786.5	786.5	786.5	786.5
55°	738.4	727.4	720.0	712.6	705.2	701.6	701.6	701.6	697.8	697.8	701.6
57.5°	649.8	642.5	631.4	624.0	620.3	620.3	616.6	612.9	616.6	620.3	624.0
60°	568.6	561.2	557.5	546.5	546.5	546.5	542.7	542.7	542.7	546.5	550.1
62.5°	494.8	491.0	483.6	480.0	476.4	476.4	472.6	472.6	472.6	472.6	476.4
65°	428.3	420.9	413.5	413.5	413.5	409.8	409.8	402.5	406.1	406.1	402.5
67.5°	365.5	358.1	354.5	350.7	347.1	347.1	343.3	339.7	335.9	335.9	335.9
70°	306.5	299.1	299.1	291.7	291.7	288.0	284.3	284.3	280.6	276.9	273.2
72.5°	247.4	243.6	240.0	236.4	236.4	236.4	232.6	229.0	225.2	221.6	214.2
75°	195.7	195.7	188.3	184.6	184.6	180.9	177.2	173.5	169.9	166.1	162.5
77.5°	151.4	147.7	140.3	136.7	136.7	136.7	132.9	129.3	125.5	121.9	118.1
80°	110.7	107.1	103.3	99.7	99.7	99.7	96.0	96.0	92.3	92.3	92.3
82.5°	73.9	73.9	70.1	70.1	70.1	70.1	66.5	66.5	66.5	66.5	66.5
85°	44.3	44.3	40.6	40.6	40.6	40.6	40.6	40.6	40.6	40.6	40.6
87.5°	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
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°	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4
2.5°	2588.2	2588.2	2580.8	2577.2	2573.4	2577.2	2569.8	2566.1	2562.4	2562.4	2558.7
5°	2566.1	2562.4	2547.6	2544.0	2540.2	2536.6	2529.2	2521.8	2514.4	2510.7	2507.1
7.5°	2536.6	2525.5	2510.7	2507.1	2503.3	2492.3	2481.1	2473.7	2462.7	2459.1	2451.7
10°	2495.9	2481.1	2470.1	2459.1	2451.7	2440.5	2429.5	2418.4	2403.6	2400.0	2388.9
12.5°	2447.9	2429.5	2407.3	2403.6	2392.6	2377.8	2363.0	2352.0	2340.8	2333.4	2322.4
15°	2388.9	2370.4	2348.2	2337.2	2326.1	2315.0	2296.6	2281.8	2270.7	2259.7	2248.5
17.5°	2318.7	2296.6	2278.1	2267.1	2259.7	2241.1	2226.5	2207.9	2196.9	2185.8	2174.7
20°	2233.7	2215.3	2189.5	2178.4	2174.7	2160.0	2141.5	2134.2	2119.4	2108.2	2100.8
22.5°	2137.8	2119.4	2097.2	2089.8	2075.0	2067.6	2049.2	2041.8	2034.5	2023.3	2019.7
25°	2030.7	2012.3	1993.7	1990.1	1979.1	1971.7	1960.6	1949.5	1949.5	1938.4	1938.4
27.5°	1920.0	1901.6	1886.8	1879.4	1875.6	1868.2	1857.2	1853.5	1849.8	1846.1	1846.1
30°	1801.8	1779.7	1772.3	1768.5	1764.9	1757.5	1753.9	1746.5	1750.1	1753.9	1750.1
32.5°	1676.2	1668.9	1654.2	1646.8	1650.4	1646.8	1639.4	1646.8	1643.0	1650.4	1654.2
35°	1554.5	1547.1	1539.7	1539.7	1532.3	1532.3	1532.3	1535.9	1543.3	1547.1	1554.5
37.5°	1436.2	1425.2	1421.6	1417.8	1421.6	1421.6	1421.6	1428.9	1436.2	1443.6	1454.8
40°	1310.7	1303.3	1303.3	1303.3	1303.3	1314.5	1310.7	1318.1	1325.5	1336.6	1347.7
42.5°	1192.6	1192.6	1196.2	1196.2	1196.2	1196.2	1203.6	1214.8	1225.8	1236.9	1248.0
45°	1081.9	1081.9	1081.9	1089.2	1089.2	1092.9	1107.7	1115.1	1122.4	1133.5	1144.6
47.5°	978.4	978.4	982.2	985.8	989.5	996.9	1004.3	1015.3	1026.5	1033.9	1044.9
50°	882.4	886.1	893.5	900.9	900.9	904.6	915.6	923.0	930.4	941.6	945.2
52.5°	790.1	797.5	804.9	808.5	812.3	819.7	823.3	834.5	838.1	849.3	852.9
55°	705.2	709.0	720.0	723.6	723.6	731.0	738.4	745.8	756.9	756.9	764.3
57.5°	627.7	631.4	638.7	642.5	638.7	649.8	653.5	660.9	664.6	672.0	675.6
60°	550.1	557.5	561.2	561.2	564.9	568.6	575.9	575.9	583.3	590.7	590.7
62.5°	476.4	480.0	483.6	487.4	491.0	487.4	498.4	498.4	505.8	509.6	516.9
65°	406.1	409.8	409.8	413.5	413.5	417.2	417.2	420.9	424.6	432.0	435.7
67.5°	335.9	335.9	335.9	339.7	335.9	339.7	339.7	343.3	343.3	350.7	354.5
70°	273.2	269.6	265.8	265.8	265.8	265.8	262.2	265.8	265.8	269.6	269.6
72.5°	210.4	206.8	203.0	199.4	199.4	195.7	192.0	195.7	195.7	199.4	199.4
75°	158.8	151.4	151.4	151.4	147.7	147.7	147.7	151.4	151.4	151.4	155.1
77.5°	118.1	118.1	114.5	114.5	114.5	118.1	118.1	121.9	121.9	121.9	121.9
80°	88.6	92.3	92.3	92.3	92.3	96.0	96.0	96.0	96.0	99.7	99.7
82.5°	66.5	66.5	66.5	66.5	70.1	70.1	70.1	70.1	70.1	70.1	70.1
85°	40.6	44.3	44.3	40.6	44.3	44.3	44.3	44.3	44.3	44.3	44.3
87.5°	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
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: P593770

CATALOG NUMBER: HC845D010-HM82555850-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4	2599.4
2.5°	2555.0	2555.0	2555.0	2555.0	2551.3	2551.3	2551.3	2547.6
5°	2499.7	2499.7	2499.7	2492.3	2495.9	2495.9	2488.5	2492.3
7.5°	2444.3	2440.5	2436.9	2436.9	2433.2	2429.5	2425.8	2429.5
10°	2381.5	2370.4	2370.4	2366.8	2366.8	2359.4	2359.4	2363.0
12.5°	2311.4	2304.0	2304.0	2300.3	2296.6	2292.9	2289.2	2289.2
15°	2241.1	2233.7	2230.1	2226.5	2222.7	2215.3	2219.1	2215.3
17.5°	2171.0	2160.0	2160.0	2156.2	2152.6	2145.2	2145.2	2141.5
20°	2089.8	2086.1	2078.7	2082.4	2078.7	2071.4	2067.6	2067.6
22.5°	2008.5	2008.5	2004.9	2004.9	2001.1	1997.5	1993.7	1993.7
25°	1931.0	1927.4	1931.0	1931.0	1920.0	1920.0	1920.0	1923.6
27.5°	1842.4	1846.1	1842.4	1842.4	1842.4	1842.4	1846.1	1842.4
30°	1753.9	1753.9	1753.9	1757.5	1764.9	1761.1	1761.1	1757.5
32.5°	1657.8	1661.6	1661.6	1665.2	1668.9	1676.2	1676.2	1680.0
35°	1561.8	1569.2	1572.9	1569.2	1580.3	1580.3	1587.7	1587.7
37.5°	1462.1	1465.8	1473.2	1476.9	1484.3	1488.0	1491.7	1491.7
40°	1355.0	1369.8	1373.5	1377.2	1388.2	1388.2	1392.0	1399.4
42.5°	1255.3	1270.1	1273.9	1277.5	1284.9	1295.9	1292.3	1299.7
45°	1159.4	1170.4	1174.2	1177.8	1189.0	1192.6	1192.6	1203.6
47.5°	1055.9	1063.3	1067.1	1074.5	1081.9	1089.2	1096.6	1092.9
50°	952.6	963.6	971.0	974.8	985.8	989.5	993.2	996.9
52.5°	860.3	867.7	871.4	875.1	886.1	889.8	893.5	900.9
55°	771.7	775.4	782.7	779.1	790.1	793.9	797.5	804.9
57.5°	683.0	686.8	690.4	690.4	697.8	705.2	709.0	712.6
60°	598.1	605.5	609.3	609.3	609.3	616.6	616.6	616.6
62.5°	520.6	520.6	524.3	524.3	531.7	531.7	531.7	531.7
65°	439.4	443.0	446.8	446.8	454.2	450.4	457.8	454.2
67.5°	354.5	354.5	361.9	361.9	358.1	361.9	361.9	361.9
70°	269.6	269.6	273.2	273.2	273.2	273.2	273.2	273.2
72.5°	199.4	199.4	199.4	203.0	199.4	199.4	203.0	199.4
75°	155.1	155.1	155.1	155.1	155.1	155.1	155.1	155.1
77.5°	121.9	121.9	125.5	125.5	125.5	125.5	125.5	125.5
80°	99.7	99.7	99.7	99.7	103.3	99.7	99.7	99.7
82.5°	73.9	70.1	73.9	70.1	73.9	73.9	73.9	73.9
85°	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
87.5°	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
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)