

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: P593735

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593735
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC850D010-HM82555850-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4716.9 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.04 / 1.13
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

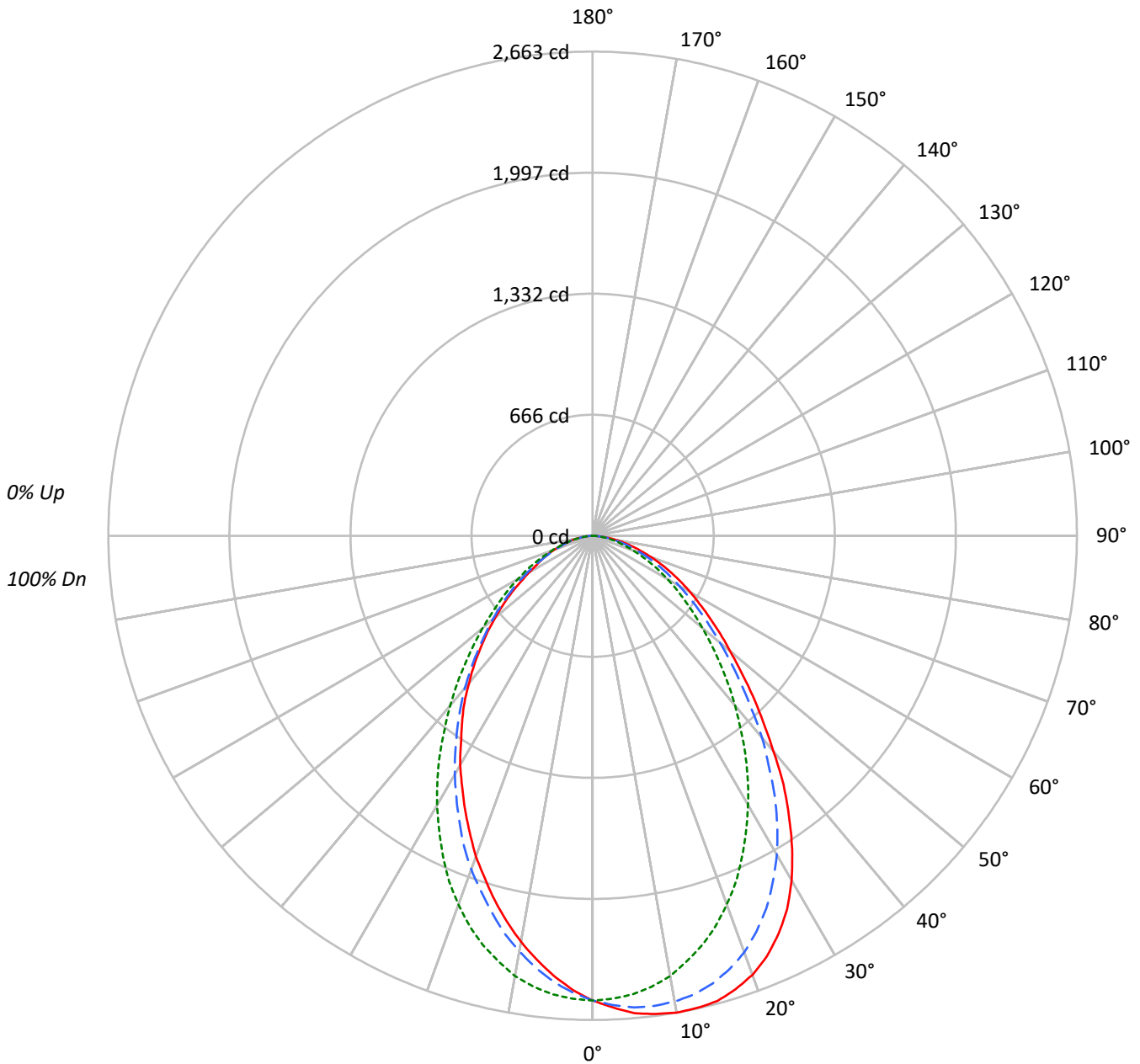
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					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	93	91	89	87								
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76								
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66								
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58								
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51								
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46								
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41								
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	78811	78811	78811
5°	81583	78360	75246
10°	83393	76990	71016
15°	84580	74396	66316
20°	84326	70783	61568
25°	82240	66194	56517
30°	77915	60877	51865
35°	70888	55092	47127
40°	62257	49001	42577
45°	54293	43099	37962
50°	47244	37764	33437
55°	42133	33187	29085
60°	38280	29085	24805
65°	34410	25304	22524
70°	30645	21575	20322
75°	26855	18181	17359
80°	22783	14775	15414
85°	17195	11039	12242



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.4	5.1
10°-20°	659.6	14.0
20°-30°	915.6	19.4
30°-40°	946.6	20.1
40°-50°	792.6	16.8
50°-60°	575.4	12.2
60°-70°	363.1	7.7
70°-80°	179.9	3.8
80°-90°	44.7	0.9
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°	1814.6	38.5
0°-40°	2761.2	58.5
0°-60°	4129.2	87.5
0°-90°	4716.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4716.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2556	2556	2556	2556	2556	
5°	2636	2604	2532	2462	2431	252
15°	2649	2549	2330	2143	2077	746
25°	2417	2261	1946	1734	1661	1108
35°	1883	1744	1464	1297	1252	1173
45°	1245	1155	988	891	870	963
55°	784	714	617	565	541	707
65°	472	413	347	305	309	470
75°	225	187	153	146	146	242
85°	49	38	31	35	35	59
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°	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8
2.5°	2597.4	2597.4	2600.9	2597.4	2597.4	2597.4	2594.0	2594.0	2590.5	2590.5	2583.6
5°	2635.6	2628.6	2635.6	2628.6	2628.6	2628.6	2625.1	2618.2	2614.8	2607.9	2604.3
7.5°	2652.9	2649.4	2649.4	2646.0	2646.0	2642.5	2639.1	2635.6	2621.7	2618.2	2607.9
10°	2663.3	2659.9	2659.9	2656.4	2649.4	2649.4	2642.5	2639.1	2621.7	2614.8	2600.9
12.5°	2659.9	2659.9	2659.9	2656.4	2646.0	2642.5	2635.6	2625.1	2611.3	2597.4	2583.6
15°	2649.4	2649.4	2642.5	2639.1	2628.6	2621.7	2618.2	2600.9	2587.1	2569.7	2548.9
17.5°	2614.8	2614.8	2611.3	2604.3	2594.0	2587.1	2580.0	2562.8	2548.9	2521.1	2500.3
20°	2569.7	2566.2	2562.8	2552.3	2542.0	2538.5	2528.0	2503.8	2486.5	2465.7	2438.0
22.5°	2503.8	2500.3	2496.9	2490.0	2472.6	2465.7	2458.8	2441.4	2410.2	2389.4	2354.7
25°	2417.1	2417.1	2410.2	2399.8	2382.4	2375.5	2365.1	2347.8	2320.0	2288.8	2261.0
27.5°	2316.6	2313.1	2302.6	2295.7	2281.8	2271.5	2254.1	2233.3	2205.5	2181.3	2146.6
30°	2188.2	2188.2	2181.3	2170.9	2153.5	2146.6	2132.7	2108.4	2080.7	2049.5	2025.3
32.5°	2042.5	2042.5	2032.2	2025.3	2014.8	1997.5	1994.1	1966.2	1942.0	1917.7	1890.0
35°	1883.1	1886.5	1879.6	1865.7	1848.4	1848.4	1841.4	1817.1	1789.4	1765.1	1744.3
37.5°	1723.5	1713.1	1709.7	1702.8	1692.3	1678.5	1671.5	1661.1	1636.8	1619.5	1588.3
40°	1546.6	1550.1	1543.2	1536.3	1532.8	1522.4	1518.9	1501.5	1484.3	1463.5	1449.5
42.5°	1387.2	1387.2	1387.2	1380.2	1373.3	1362.9	1359.5	1349.0	1328.2	1314.4	1293.5
45°	1245.0	1234.5	1234.5	1231.1	1227.6	1220.7	1210.2	1203.3	1189.5	1179.1	1154.8
47.5°	1106.2	1109.7	1106.2	1102.8	1092.4	1089.0	1085.4	1071.6	1057.7	1047.3	1029.9
50°	984.8	991.9	984.8	984.8	977.9	974.5	967.6	957.1	946.8	929.4	912.0
52.5°	884.3	884.3	880.8	877.4	866.9	860.0	856.6	853.1	835.7	821.9	808.0
55°	783.7	787.2	787.2	776.8	773.4	766.4	762.9	752.6	745.5	724.8	714.4
57.5°	697.0	693.5	697.0	690.1	683.2	676.3	672.8	665.8	655.5	641.5	627.7
60°	620.7	613.8	613.8	610.4	603.4	600.0	593.0	582.6	572.2	558.3	547.9
62.5°	544.4	541.0	537.5	534.1	527.2	523.6	520.1	509.8	499.3	489.0	478.6
65°	471.6	471.6	468.1	461.2	457.8	454.3	450.8	443.9	430.1	423.0	412.7
67.5°	405.8	402.2	402.2	395.3	388.4	385.0	385.0	377.9	367.6	357.2	350.2
70°	339.9	343.3	339.9	336.4	329.4	329.4	322.5	319.0	305.1	301.7	291.3
72.5°	280.8	280.8	277.4	277.4	270.5	267.0	267.0	260.1	253.1	246.2	239.3
75°	225.4	225.4	225.4	221.9	218.5	211.6	211.6	208.1	201.1	194.2	187.3
77.5°	176.8	173.4	173.4	169.9	166.5	163.0	163.0	159.6	152.6	149.1	142.2
80°	128.3	124.8	124.8	124.8	117.9	121.4	117.9	114.5	111.0	107.5	104.0
82.5°	83.2	86.8	86.8	83.2	79.7	79.7	79.7	76.3	76.3	72.8	69.4
85°	48.6	48.6	48.6	48.6	45.1	45.1	45.1	41.6	41.6	41.6	38.2
87.5°	20.8	20.8	20.8	20.8	20.8	20.8	17.4	17.4	17.4	17.4	17.4
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°	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8
2.5°	2583.6	2576.6	2573.1	2569.7	2569.7	2566.2	2562.8	2555.8	2555.8	2548.9	2545.4
5°	2597.4	2587.1	2580.0	2573.1	2569.7	2562.8	2555.8	2545.4	2542.0	2531.5	2521.1
7.5°	2600.9	2583.6	2576.6	2562.8	2555.8	2548.9	2535.1	2524.6	2510.8	2500.3	2486.5
10°	2587.1	2573.1	2555.8	2538.5	2535.1	2524.6	2503.8	2490.0	2472.6	2458.8	2438.0
12.5°	2566.2	2545.4	2528.0	2507.2	2496.9	2486.5	2465.7	2444.9	2420.6	2396.3	2375.5
15°	2531.5	2507.2	2483.1	2458.8	2444.9	2434.5	2410.2	2386.0	2361.7	2330.4	2309.6
17.5°	2479.5	2451.8	2427.5	2396.3	2382.4	2372.0	2340.8	2313.1	2281.8	2250.6	2229.8
20°	2413.7	2378.9	2351.2	2316.6	2306.1	2288.8	2257.5	2226.4	2191.7	2157.0	2132.7
22.5°	2326.9	2292.3	2261.0	2226.4	2209.0	2191.7	2160.4	2122.4	2087.6	2059.9	2035.6
25°	2226.4	2195.2	2157.0	2125.8	2105.0	2084.2	2049.5	2018.4	1987.1	1945.5	1921.3
27.5°	2115.3	2077.3	2049.5	2007.9	1987.1	1973.3	1935.1	1893.4	1865.7	1827.6	1799.9
30°	1990.5	1955.9	1924.7	1883.1	1862.2	1848.4	1813.7	1775.6	1747.8	1709.7	1681.9
32.5°	1858.8	1820.6	1782.5	1754.8	1730.5	1716.6	1678.5	1654.2	1619.5	1588.3	1557.1
35°	1716.6	1678.5	1650.6	1612.6	1598.6	1584.8	1553.7	1522.4	1491.2	1463.5	1439.2
37.5°	1564.0	1536.3	1505.1	1477.3	1466.9	1453.0	1414.9	1387.2	1362.9	1335.2	1314.4
40°	1414.9	1390.6	1369.8	1342.1	1324.7	1314.4	1286.6	1262.4	1234.5	1217.3	1196.4
42.5°	1279.6	1251.9	1231.1	1210.2	1193.0	1182.5	1158.2	1141.0	1120.1	1102.8	1078.5
45°	1137.4	1123.6	1099.3	1081.9	1071.6	1057.7	1040.4	1019.6	1002.2	988.3	971.0
47.5°	1012.6	998.8	981.4	960.6	953.7	943.3	925.9	912.0	898.2	884.3	866.9
50°	898.2	880.8	866.9	853.1	846.2	835.7	818.4	811.5	801.1	787.2	776.8
52.5°	794.1	780.3	766.4	749.1	745.5	738.6	728.3	714.4	704.0	697.0	690.1
55°	700.6	686.6	676.3	662.4	658.9	652.0	638.1	631.2	624.3	617.3	610.4
57.5°	617.3	603.4	589.5	582.6	575.7	568.7	565.2	554.9	547.9	544.4	537.5
60°	541.0	527.2	516.7	506.3	502.9	499.3	492.4	485.5	478.6	471.6	468.1
62.5°	468.1	454.3	447.3	440.4	433.5	433.5	426.5	419.6	412.7	409.2	402.2
65°	402.2	395.3	385.0	374.5	371.0	371.0	360.7	357.2	353.7	346.8	339.9
67.5°	339.9	333.0	322.5	319.0	315.6	312.1	308.7	301.7	294.8	291.3	284.4
70°	284.4	277.4	270.5	267.0	263.6	260.1	253.1	249.7	242.8	239.3	235.9
72.5°	228.8	225.4	218.5	215.0	211.6	208.1	204.6	201.1	194.2	190.8	187.3
75°	183.9	180.3	173.4	169.9	166.5	166.5	163.0	156.0	152.6	152.6	149.1
77.5°	138.8	135.3	131.7	128.3	124.8	124.8	121.4	117.9	114.5	114.5	111.0
80°	100.6	97.1	93.7	93.7	93.7	90.2	86.8	86.8	83.2	83.2	79.7
82.5°	65.9	65.9	62.5	62.5	62.5	58.9	58.9	55.5	55.5	55.5	55.5
85°	38.2	38.2	38.2	34.6	34.6	34.6	34.6	34.6	34.6	31.2	34.6
87.5°	17.4	17.4	17.4	17.4	17.4	17.4	17.4	17.4	13.9	13.9	13.9
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°	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8
2.5°	2542.0	2538.5	2531.5	2531.5	2524.6	2524.6	2521.1	2517.7	2514.2	2510.8	2507.2
5°	2517.7	2503.8	2496.9	2493.4	2486.5	2483.1	2472.6	2465.7	2462.2	2455.2	2448.3
7.5°	2472.6	2458.8	2444.9	2441.4	2438.0	2424.0	2413.7	2403.2	2396.3	2389.4	2382.4
10°	2420.6	2406.7	2389.4	2382.4	2375.5	2358.1	2344.3	2333.8	2320.0	2306.1	2302.6
12.5°	2358.1	2337.4	2316.6	2309.6	2299.2	2281.8	2268.0	2250.6	2240.3	2222.9	2219.5
15°	2285.3	2261.0	2243.7	2226.4	2219.5	2202.1	2177.8	2163.9	2143.2	2136.2	2118.9
17.5°	2198.6	2174.4	2150.1	2143.2	2132.7	2108.4	2084.2	2066.8	2046.1	2035.6	2025.3
20°	2108.4	2077.3	2053.0	2046.1	2032.2	2011.3	1987.1	1969.8	1952.4	1931.6	1921.3
22.5°	2004.4	1969.8	1949.0	1931.6	1928.2	1903.9	1876.2	1862.2	1848.4	1831.1	1817.1
25°	1890.0	1858.8	1834.5	1820.6	1813.7	1792.9	1772.0	1754.8	1733.9	1723.5	1706.2
27.5°	1772.0	1751.3	1720.0	1706.2	1695.8	1678.5	1654.2	1643.7	1622.9	1609.1	1598.6
30°	1657.7	1626.4	1609.1	1591.7	1581.4	1564.0	1543.2	1532.8	1515.5	1501.5	1491.2
32.5°	1532.8	1512.0	1487.7	1480.8	1466.9	1449.5	1435.7	1418.4	1404.4	1390.6	1387.2
35°	1418.4	1390.6	1366.4	1359.5	1349.0	1331.6	1324.7	1314.4	1297.0	1293.5	1279.6
37.5°	1293.5	1279.6	1251.9	1241.5	1238.1	1224.2	1210.2	1203.3	1193.0	1182.5	1179.1
40°	1175.6	1158.2	1144.4	1134.0	1127.0	1116.7	1102.8	1099.3	1092.4	1078.5	1075.0
42.5°	1064.7	1047.3	1033.4	1029.9	1019.6	1009.1	1002.2	991.9	988.3	984.8	977.9
45°	957.1	946.8	932.8	929.4	925.9	912.0	905.1	898.2	891.2	887.7	880.8
47.5°	860.0	849.7	839.2	835.7	828.8	825.4	814.9	811.5	801.1	797.7	794.1
50°	766.4	759.5	752.6	749.1	742.1	738.6	731.7	724.8	717.8	714.4	710.9
52.5°	683.2	676.3	669.3	665.8	662.4	655.5	648.6	641.5	638.1	634.6	631.2
55°	603.4	596.4	593.0	589.5	586.1	582.6	572.2	568.7	565.2	561.8	554.9
57.5°	530.6	523.6	516.7	516.7	513.2	509.8	502.9	495.9	495.9	489.0	482.1
60°	464.7	457.8	450.8	447.3	443.9	437.0	433.5	430.1	426.5	423.0	416.1
62.5°	395.3	391.9	385.0	385.0	377.9	374.5	371.0	367.6	364.1	357.2	353.7
65°	336.4	333.0	325.9	322.5	322.5	319.0	312.1	308.7	305.1	305.1	301.7
67.5°	280.8	277.4	270.5	267.0	267.0	263.6	260.1	260.1	256.6	253.1	256.6
70°	232.3	225.4	225.4	221.9	221.9	218.5	215.0	215.0	215.0	218.5	218.5
72.5°	183.9	180.3	176.8	176.8	176.8	176.8	173.4	173.4	176.8	180.3	180.3
75°	145.7	142.2	142.2	142.2	138.8	138.8	142.2	142.2	145.7	145.7	145.7
77.5°	107.5	107.5	107.5	107.5	107.5	107.5	111.0	111.0	114.5	114.5	114.5
80°	79.7	79.7	79.7	79.7	79.7	83.2	83.2	83.2	83.2	83.2	86.8
82.5°	55.5	55.5	55.5	55.5	55.5	55.5	55.5	58.9	58.9	58.9	58.9
85°	31.2	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6
87.5°	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9
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: P593735

CATALOG NUMBER: HC850D010-HM82555850-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8	2555.8
2.5°	2503.8	2503.8	2503.8	2507.2	2500.3	2500.3	2500.3	2500.3
5°	2444.9	2441.4	2438.0	2441.4	2434.5	2434.5	2430.9	2430.9
7.5°	2372.0	2368.6	2365.1	2365.1	2358.1	2358.1	2354.7	2351.2
10°	2292.3	2285.3	2288.8	2281.8	2278.4	2274.9	2271.5	2268.0
12.5°	2205.5	2198.6	2195.2	2188.2	2181.3	2177.8	2181.3	2174.4
15°	2111.9	2101.5	2098.1	2091.1	2084.2	2080.7	2080.7	2077.3
17.5°	2007.9	2001.0	1997.5	1990.5	1987.1	1980.2	1976.7	1973.3
20°	1910.8	1893.4	1897.0	1890.0	1886.5	1872.7	1872.7	1876.2
22.5°	1803.3	1792.9	1786.0	1779.0	1775.6	1768.6	1768.6	1765.1
25°	1695.8	1685.4	1681.9	1674.9	1671.5	1664.6	1661.1	1661.1
27.5°	1591.7	1577.9	1577.9	1570.9	1564.0	1560.6	1557.1	1553.7
30°	1480.8	1470.4	1466.9	1466.9	1463.5	1463.5	1453.0	1456.6
32.5°	1376.7	1369.8	1366.4	1359.5	1359.5	1355.9	1355.9	1345.5
35°	1272.7	1262.4	1265.8	1258.8	1255.3	1251.9	1255.3	1251.9
37.5°	1172.1	1165.2	1165.2	1158.2	1158.2	1154.8	1151.3	1158.2
40°	1071.6	1068.1	1064.7	1061.1	1064.7	1061.1	1054.2	1057.7
42.5°	971.0	971.0	967.6	967.6	964.0	964.0	964.0	964.0
45°	880.8	877.4	877.4	873.9	873.9	873.9	873.9	870.5
47.5°	790.6	787.2	787.2	787.2	783.7	783.7	780.3	783.7
50°	704.0	704.0	700.6	700.6	704.0	700.6	697.0	697.0
52.5°	624.3	624.3	620.7	620.7	617.3	613.8	617.3	617.3
55°	551.4	547.9	544.4	544.4	541.0	537.5	537.5	541.0
57.5°	482.1	478.6	475.0	475.0	468.1	464.7	464.7	464.7
60°	416.1	409.2	409.2	405.8	405.8	402.2	402.2	402.2
62.5°	353.7	350.2	350.2	350.2	350.2	346.8	346.8	346.8
65°	301.7	301.7	301.7	305.1	305.1	308.7	308.7	308.7
67.5°	260.1	263.6	263.6	263.6	267.0	267.0	267.0	263.6
70°	221.9	221.9	221.9	225.4	225.4	225.4	225.4	225.4
72.5°	183.9	183.9	183.9	183.9	183.9	183.9	183.9	183.9
75°	145.7	149.1	149.1	149.1	145.7	149.1	149.1	145.7
77.5°	114.5	114.5	114.5	114.5	114.5	114.5	114.5	114.5
80°	86.8	86.8	86.8	86.8	86.8	86.8	86.8	86.8
82.5°	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9
85°	34.6	34.6	34.6	34.6	34.6	34.6	34.6	34.6
87.5°	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9
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)