

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: P584895

Luminaire Tested: **HC850D010-HM82555935-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584895
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC850D010-HM82555935-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4172.2 lumens
Efficiency: N/A
Efficacy: 86.9 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

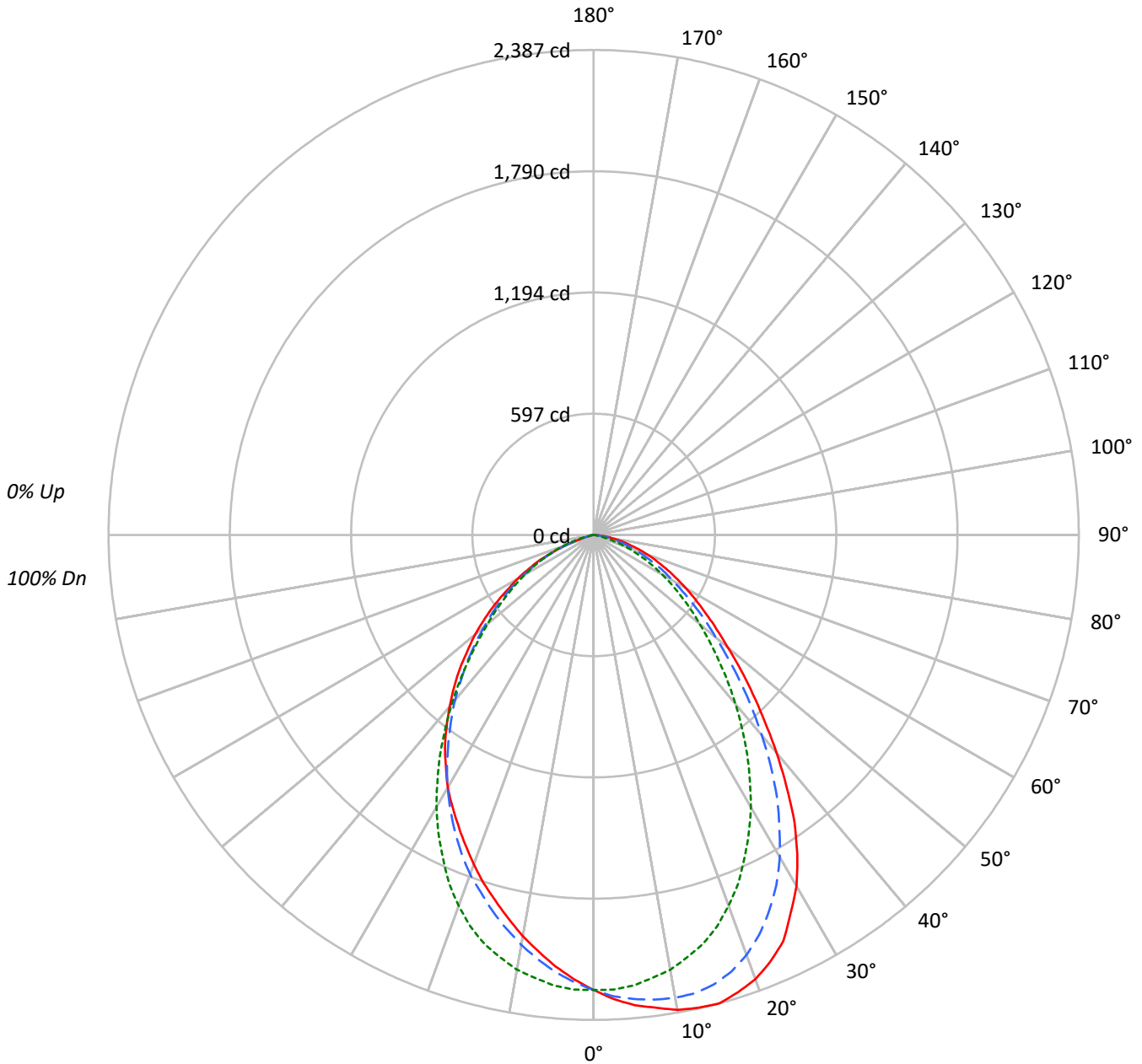
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59			
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47			
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43			
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39			
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35			
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	69070	69070	69070
5°	71925	68919	66016
10°	74328	68038	62796
15°	76209	66482	59535
20°	76358	63724	56583
25°	75071	59692	53656
30°	71053	55076	51145
35°	64782	49532	48019
40°	56335	43667	44340
45°	48328	37818	40591
50°	41281	32607	36459
55°	36181	28080	31682
60°	32212	23947	26636
65°	28580	19540	21255
70°	25362	14489	12081
75°	21148	7577	3598
80°	16657	2380	604
85°	11817	1203	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.1	5.1
10°-20°	591.6	14.2
20°-30°	837.3	20.1
30°-40°	876.0	21.0
40°-50°	730.6	17.5
50°-60°	518.1	12.4
60°-70°	298.4	7.2
70°-80°	96.0	2.3
80°-90°	13.2	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°	1639.9	39.3
0°-40°	2515.8	60.3
0°-60°	3764.5	90.2
0°-90°	4172.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4172.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2240	2240	2240	2240	2240	
5°	2324	2294	2226	2160	2133	223
15°	2387	2290	2082	1918	1865	671
25°	2206	2042	1754	1614	1577	1007
35°	1721	1570	1316	1246	1276	1067
45°	1108	1018	867	877	931	859
55°	673	603	522	549	589	608
65°	392	328	268	268	291	391
75°	178	131	64	30	30	192
85°	33	17	3	0	0	42
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°	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9
2.5°	2286.8	2283.4	2280.0	2283.4	2280.0	2283.4	2280.0	2280.0	2276.7	2273.4	2273.4
5°	2323.6	2320.2	2320.2	2320.2	2316.8	2313.6	2313.6	2310.2	2303.5	2300.1	2293.5
7.5°	2347.0	2350.4	2350.4	2350.4	2343.6	2343.6	2336.9	2330.3	2323.6	2316.8	2306.8
10°	2373.8	2373.8	2370.5	2367.1	2360.4	2357.1	2353.7	2347.0	2336.9	2323.6	2313.6
12.5°	2383.8	2383.8	2380.4	2373.8	2370.5	2367.1	2363.7	2353.7	2340.3	2323.6	2310.2
15°	2387.2	2380.4	2377.2	2373.8	2367.1	2357.1	2357.1	2343.6	2326.9	2306.8	2290.1
17.5°	2360.4	2363.7	2357.1	2350.4	2340.3	2333.6	2323.6	2313.6	2293.5	2270.0	2253.2
20°	2326.9	2323.6	2320.2	2310.2	2296.7	2293.5	2283.4	2266.7	2249.9	2223.1	2199.7
22.5°	2273.4	2270.0	2263.3	2256.6	2243.2	2236.5	2226.5	2206.4	2183.0	2156.2	2129.3
25°	2206.4	2199.7	2189.7	2176.2	2166.2	2159.5	2146.2	2126.1	2099.3	2069.1	2042.4
27.5°	2099.3	2109.3	2102.6	2082.5	2072.5	2059.1	2055.7	2028.9	2005.5	1975.4	1945.2
30°	1995.5	1995.5	1985.4	1975.4	1958.7	1948.6	1935.2	1915.1	1891.7	1854.9	1831.4
32.5°	1864.9	1861.5	1848.2	1844.8	1831.4	1811.4	1808.0	1781.2	1757.7	1730.9	1700.8
35°	1720.9	1714.2	1700.8	1690.7	1684.1	1674.0	1664.0	1640.6	1617.1	1590.3	1570.2
37.5°	1556.9	1556.9	1553.5	1536.8	1530.1	1523.3	1513.4	1489.9	1476.4	1449.7	1429.7
40°	1399.5	1396.1	1386.1	1382.8	1376.0	1366.0	1359.3	1346.0	1325.9	1305.8	1285.7
42.5°	1245.5	1248.8	1235.4	1238.8	1225.3	1218.7	1215.4	1195.3	1185.2	1165.1	1148.4
45°	1108.2	1104.8	1098.2	1094.8	1088.1	1081.4	1074.8	1064.7	1047.9	1027.9	1017.8
47.5°	981.0	971.0	971.0	967.6	964.2	950.9	947.5	937.4	927.4	907.4	893.9
50°	860.5	860.5	860.5	857.1	847.1	843.7	837.0	827.0	816.9	803.6	783.5
52.5°	763.4	763.4	763.4	760.0	746.6	743.3	740.0	726.5	713.1	703.2	689.7
55°	673.0	676.3	673.0	666.2	656.3	656.3	646.2	639.4	626.1	616.1	602.6
57.5°	596.0	596.0	589.3	585.9	579.2	575.8	569.2	562.5	545.7	535.6	518.9
60°	522.3	518.9	518.9	512.3	505.6	498.8	495.5	485.5	478.8	462.0	448.7
62.5°	455.3	455.3	448.7	448.7	435.2	435.2	431.9	421.9	411.8	395.1	388.3
65°	391.7	391.7	388.3	385.1	375.0	371.6	368.2	358.3	348.2	338.2	328.1
67.5°	334.8	334.8	328.1	324.7	318.1	314.7	308.0	301.4	291.3	281.3	271.2
70°	281.3	277.9	274.6	271.2	264.5	261.2	254.5	247.7	237.7	231.0	220.9
72.5°	227.7	227.7	224.3	217.7	214.3	210.9	207.6	200.8	190.9	180.8	174.1
75°	177.5	177.5	177.5	170.8	164.0	160.7	160.7	154.0	147.3	137.2	130.6
77.5°	137.2	134.0	130.6	130.6	123.9	120.5	117.1	113.9	103.8	100.4	93.8
80°	93.8	97.1	93.8	90.4	87.1	83.7	83.7	77.0	73.6	67.0	60.3
82.5°	63.6	60.3	60.3	56.9	56.9	53.5	53.5	46.9	43.5	40.2	36.8
85°	33.4	33.4	30.2	30.2	30.2	26.8	26.8	23.4	23.4	20.1	16.7
87.5°	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	6.7	6.7	6.7
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°	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9
2.5°	2270.0	2263.3	2259.9	2259.9	2256.6	2253.2	2249.9	2246.6	2239.9	2239.9	2233.1
5°	2286.8	2280.0	2276.7	2266.7	2259.9	2259.9	2246.6	2243.2	2233.1	2226.5	2219.8
7.5°	2300.1	2286.8	2276.7	2266.7	2259.9	2253.2	2239.9	2226.5	2213.0	2199.7	2193.0
10°	2300.1	2286.8	2270.0	2253.2	2246.6	2239.9	2223.1	2203.0	2186.3	2172.9	2156.2
12.5°	2293.5	2273.4	2253.2	2239.9	2226.5	2216.4	2196.3	2176.2	2156.2	2129.3	2116.0
15°	2273.4	2246.6	2226.5	2203.0	2193.0	2176.2	2159.5	2129.3	2106.0	2082.5	2065.7
17.5°	2233.1	2199.7	2176.2	2152.8	2136.1	2126.1	2099.3	2072.5	2045.6	2018.9	1998.8
20°	2172.9	2142.8	2116.0	2085.8	2072.5	2059.1	2025.6	1998.8	1972.0	1941.9	1921.8
22.5°	2099.3	2069.1	2032.3	2008.8	1988.7	1972.0	1941.9	1911.8	1885.0	1858.2	1831.4
25°	2008.8	1978.8	1945.2	1908.4	1895.1	1878.2	1844.8	1814.6	1784.5	1754.4	1730.9
27.5°	1911.8	1871.6	1844.8	1804.6	1791.3	1774.5	1737.6	1704.2	1677.4	1653.9	1627.1
30°	1794.5	1764.5	1727.7	1690.7	1677.4	1660.7	1630.5	1600.4	1573.6	1546.8	1520.1
32.5°	1667.3	1637.2	1600.4	1573.6	1553.5	1540.2	1510.0	1483.2	1456.5	1429.7	1406.2
35°	1533.4	1499.9	1473.2	1446.4	1429.7	1412.9	1382.8	1359.3	1339.2	1315.8	1292.3
37.5°	1396.1	1372.8	1346.0	1315.8	1299.1	1285.7	1262.2	1235.4	1218.7	1198.6	1181.9
40°	1262.2	1235.4	1212.0	1185.2	1171.8	1161.8	1138.4	1118.3	1101.5	1084.8	1074.8
42.5°	1124.9	1101.5	1078.1	1061.3	1051.3	1041.2	1024.5	1001.1	991.1	974.2	964.2
45°	997.7	977.6	960.9	937.4	930.8	924.1	904.0	887.3	877.2	867.2	860.5
47.5°	877.2	863.8	843.7	830.3	820.3	813.6	800.2	786.9	776.8	770.0	763.4
50°	773.4	756.7	743.3	729.9	723.1	713.1	699.8	693.1	686.3	679.7	679.7
52.5°	676.3	659.5	646.2	636.2	629.4	622.7	612.7	609.4	602.6	602.6	599.3
55°	585.9	575.8	562.5	549.1	545.7	542.4	535.6	529.0	525.7	522.3	525.7
57.5°	508.9	498.8	485.5	475.4	472.0	468.8	465.4	458.7	455.3	455.3	455.3
60°	438.6	428.6	418.5	408.4	408.4	401.8	398.4	395.1	391.7	388.3	388.3
62.5°	375.0	365.0	354.9	348.2	344.9	341.5	334.8	331.4	328.1	328.1	324.7
65°	318.1	304.6	301.4	291.3	287.9	284.5	281.3	274.6	271.2	267.8	264.5
67.5°	261.2	254.5	244.4	237.7	234.4	231.0	227.7	220.9	217.7	214.3	207.6
70°	210.9	204.2	197.6	190.9	187.5	184.1	177.5	170.8	167.4	160.7	150.7
72.5°	164.0	157.3	150.7	144.0	140.6	137.2	130.6	123.9	117.1	110.5	103.8
75°	123.9	117.1	107.1	100.4	97.1	97.1	87.1	80.3	73.6	63.6	56.9
77.5°	87.1	77.0	73.6	67.0	63.6	56.9	50.3	43.5	36.8	33.4	26.8
80°	56.9	50.3	43.5	40.2	36.8	33.4	30.2	23.4	16.7	13.4	10.1
82.5°	33.4	30.2	26.8	23.4	20.1	16.7	13.4	13.4	10.1	6.7	3.4
85°	16.7	13.4	10.1	10.1	6.7	6.7	6.7	3.4	3.4	3.4	3.4
87.5°	6.7	3.4	3.4	3.4	3.4	3.4	3.4	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°	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9
2.5°	2229.9	2226.5	2223.1	2219.8	2219.8	2213.0	2213.0	2209.8	2203.0	2199.7	2199.7
5°	2209.8	2199.7	2193.0	2189.7	2186.3	2176.2	2172.9	2166.2	2159.5	2152.8	2149.4
7.5°	2179.6	2162.9	2156.2	2152.8	2142.8	2132.7	2126.1	2116.0	2106.0	2095.9	2092.5
10°	2142.8	2126.1	2109.3	2102.6	2092.5	2085.8	2072.5	2059.1	2049.0	2039.0	2028.9
12.5°	2095.9	2075.8	2059.1	2052.4	2042.4	2028.9	2008.8	2002.1	1985.4	1978.8	1965.3
15°	2042.4	2018.9	2002.1	1992.1	1982.0	1961.9	1948.6	1935.2	1918.4	1911.8	1898.3
17.5°	1975.4	1948.6	1931.9	1921.8	1915.1	1898.3	1878.2	1861.5	1844.8	1838.1	1828.1
20°	1895.1	1878.2	1854.9	1844.8	1838.1	1818.0	1797.9	1791.3	1777.8	1764.5	1754.4
22.5°	1804.6	1787.9	1764.5	1754.4	1751.0	1734.3	1717.6	1707.6	1697.5	1687.5	1677.4
25°	1710.8	1690.7	1670.7	1664.0	1657.3	1644.0	1630.5	1623.9	1613.8	1607.0	1600.4
27.5°	1610.4	1590.3	1573.6	1563.5	1556.9	1546.8	1540.2	1533.4	1526.7	1520.1	1516.7
30°	1503.3	1483.2	1469.8	1463.1	1456.5	1453.1	1443.0	1439.6	1436.4	1429.7	1433.0
32.5°	1396.1	1379.4	1366.0	1355.9	1355.9	1349.3	1346.0	1346.0	1342.6	1342.6	1342.6
35°	1279.0	1268.9	1258.9	1255.5	1252.2	1248.8	1245.5	1248.8	1245.5	1248.8	1252.2
37.5°	1171.8	1161.8	1155.1	1151.7	1148.4	1151.7	1148.4	1148.4	1151.7	1158.5	1161.8
40°	1061.3	1054.7	1047.9	1051.3	1047.9	1047.9	1047.9	1057.9	1061.3	1064.7	1068.0
42.5°	957.5	950.9	947.5	947.5	950.9	947.5	954.3	957.5	964.2	974.2	981.0
45°	857.1	853.7	853.7	857.1	853.7	860.5	860.5	867.2	877.2	883.9	890.5
47.5°	763.4	763.4	763.4	766.7	766.7	770.0	776.8	780.1	786.9	793.5	800.2
50°	676.3	679.7	683.0	683.0	683.0	689.7	696.4	699.8	703.2	706.4	716.5
52.5°	599.3	602.6	602.6	606.0	609.4	612.7	616.1	622.7	626.1	632.8	636.2
55°	525.7	525.7	532.4	535.6	535.6	535.6	542.4	542.4	549.1	552.5	559.1
57.5°	455.3	458.7	458.7	462.0	462.0	465.4	468.8	472.0	475.4	478.8	482.1
60°	388.3	388.3	388.3	391.7	395.1	398.4	395.1	401.8	401.8	408.4	411.8
62.5°	324.7	328.1	328.1	328.1	328.1	328.1	328.1	331.4	334.8	338.2	341.5
65°	264.5	264.5	264.5	261.2	264.5	261.2	264.5	267.8	267.8	271.2	274.6
67.5°	204.2	204.2	197.6	197.6	200.8	200.8	200.8	200.8	197.6	204.2	204.2
70°	147.3	144.0	140.6	137.2	137.2	134.0	134.0	130.6	130.6	130.6	130.6
72.5°	97.1	90.4	83.7	80.3	77.0	77.0	70.3	67.0	70.3	70.3	70.3
75°	50.3	43.5	40.2	36.8	33.4	33.4	30.2	30.2	30.2	30.2	30.2
77.5°	20.1	16.7	13.4	13.4	10.1	10.1	10.1	10.1	10.1	10.1	10.1
80°	6.7	6.7	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
82.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
85°	3.4	0.0	0.0	3.4	0.0	3.4	3.4	3.4	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: P584895

CATALOG NUMBER: HC850D010-HM82555935-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9	2239.9
2.5°	2196.3	2196.3	2193.0	2196.3	2189.7	2193.0	2189.7	2189.7
5°	2146.2	2139.4	2139.4	2139.4	2136.1	2136.1	2132.7	2132.7
7.5°	2085.8	2082.5	2079.2	2075.8	2072.5	2069.1	2069.1	2069.1
10°	2025.6	2018.9	2018.9	2015.6	2008.8	2005.5	2005.5	2005.5
12.5°	1955.3	1951.9	1948.6	1948.6	1935.2	1938.6	1935.2	1935.2
15°	1888.3	1885.0	1885.0	1875.0	1868.2	1868.2	1868.2	1864.9
17.5°	1818.0	1814.6	1811.4	1804.6	1797.9	1797.9	1794.5	1797.9
20°	1744.4	1741.0	1734.3	1734.3	1730.9	1727.7	1720.9	1724.3
22.5°	1670.7	1664.0	1660.7	1660.7	1657.3	1657.3	1650.6	1650.6
25°	1593.7	1590.3	1587.0	1590.3	1583.6	1583.6	1577.0	1577.0
27.5°	1513.4	1510.0	1510.0	1510.0	1506.6	1510.0	1506.6	1506.6
30°	1433.0	1433.0	1429.7	1429.7	1433.0	1429.7	1433.0	1436.4
32.5°	1346.0	1346.0	1349.3	1349.3	1352.6	1352.6	1352.6	1352.6
35°	1255.5	1262.2	1262.2	1265.6	1268.9	1272.2	1272.2	1275.6
37.5°	1171.8	1175.2	1178.5	1181.9	1188.5	1188.5	1188.5	1188.5
40°	1081.4	1084.8	1091.5	1088.1	1101.5	1104.8	1101.5	1101.5
42.5°	987.7	994.4	997.7	1004.4	1007.8	1014.5	1017.8	1017.8
45°	900.6	904.0	910.7	917.4	920.7	930.8	930.8	930.8
47.5°	810.2	816.9	820.3	827.0	830.3	840.4	843.7	840.4
50°	723.1	729.9	736.6	736.6	746.6	749.9	756.7	760.0
52.5°	639.4	642.8	649.5	652.9	659.5	666.2	669.6	673.0
55°	559.1	562.5	569.2	569.2	579.2	582.5	589.3	589.3
57.5°	485.5	488.9	495.5	492.1	498.8	505.6	505.6	502.2
60°	415.1	415.1	415.1	421.9	425.2	428.6	431.9	431.9
62.5°	341.5	348.2	351.5	351.5	354.9	358.3	358.3	354.9
65°	274.6	281.3	284.5	284.5	287.9	287.9	287.9	291.3
67.5°	207.6	207.6	207.6	210.9	207.6	207.6	207.6	207.6
70°	130.6	130.6	130.6	130.6	127.2	130.6	130.6	134.0
72.5°	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3
75°	30.2	30.2	30.2	33.4	30.2	30.2	30.2	30.2
77.5°	13.4	10.1	13.4	13.4	10.1	10.1	10.1	10.1
80°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
82.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
85°	0.0	3.4	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



Report Generated By 670245859 / DESKTOP-HRDQ47P





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)