

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: P584539

Luminaire Tested: **HC840D010-HM82555830-81WWW**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584539  
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: HC840D010-HM82555830-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4108.6 lumens  
Efficiency: N/A  
Efficacy: 100.2 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

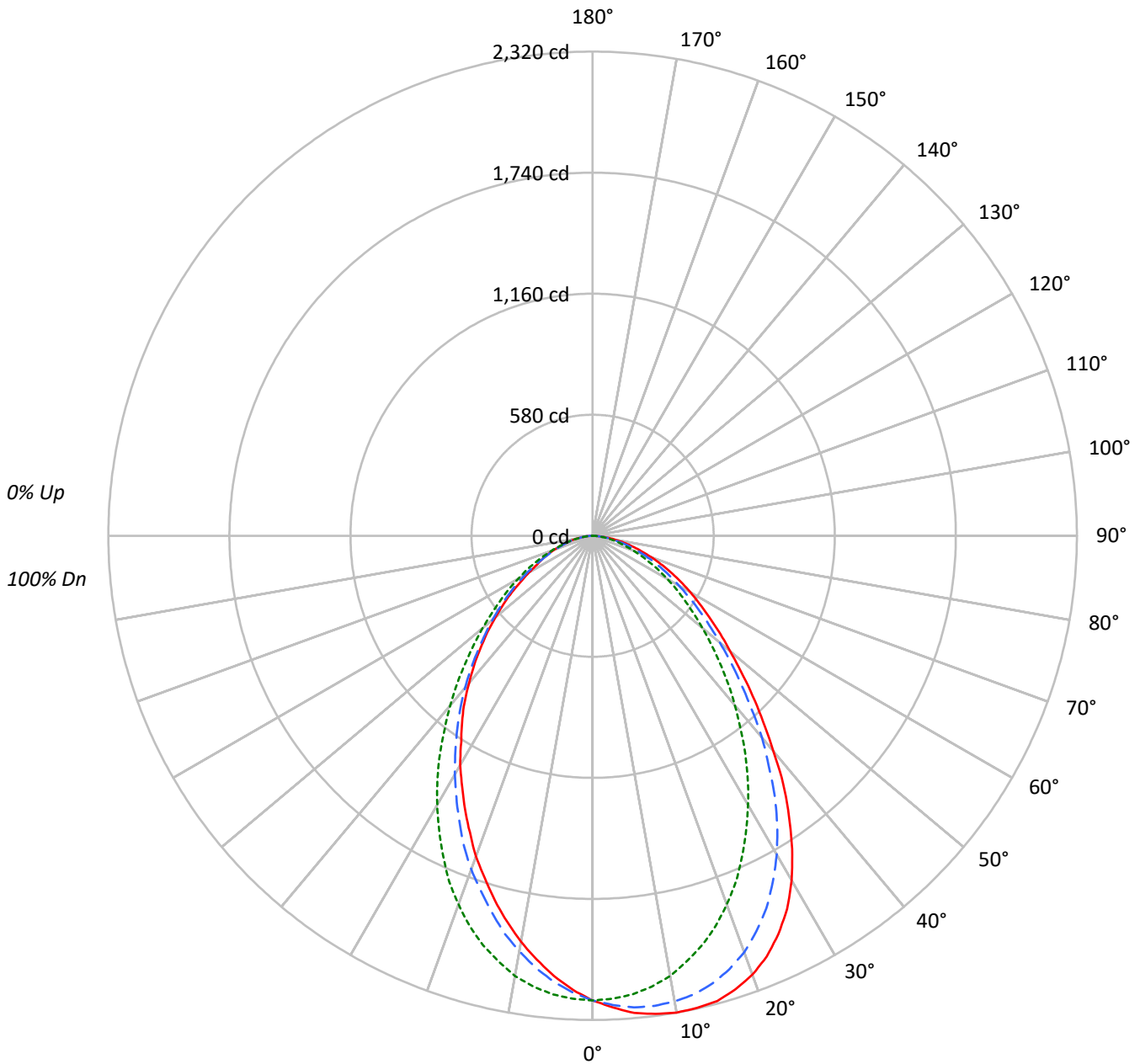
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P584539

CATALOG NUMBER: HC840D010-HM82555830-81WWW

### Luminous Intensity Polar Plot





TEST NUMBER: P584539

CATALOG NUMBER: HC840D010-HM82555830-81WWW

**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	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°	68651	68651	68651
5°	71058	68257	65545
10°	72641	67058	61857
15°	73674	64803	57763
20°	73451	61657	53624
25°	71631	57657	49229
30°	67866	53026	45174
35°	61744	47985	41047
40°	54230	42681	37086
45°	47290	37539	33060
50°	41156	32895	29124
55°	36703	28902	25332
60°	33346	25335	21604
65°	29974	22035	19613
70°	26696	18789	17707
75°	23400	15834	15119
80°	19836	12874	13425
85°	14931	9588	10685



TEST NUMBER: P584539

CATALOG NUMBER: HC840D010-HM82555830-81WWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	208.5	5.1
10°-20°	574.5	14.0
20°-30°	797.5	19.4
30°-40°	824.5	20.1
40°-50°	690.4	16.8
50°-60°	501.2	12.2
60°-70°	316.3	7.7
70°-80°	156.7	3.8
80°-90°	38.9	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°	1580.6	38.5
0°-40°	2405.1	58.5
0°-60°	3596.7	87.5
0°-90°	4108.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4108.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2226	2226	2226	2226	2226	
5°	2296	2268	2205	2145	2118	220
15°	2308	2220	2030	1867	1809	649
25°	2105	1969	1695	1510	1447	965
35°	1640	1519	1275	1130	1090	1021
45°	1084	1006	861	776	758	839
55°	683	622	538	492	471	616
65°	411	360	302	266	269	410
75°	196	163	133	127	127	211
85°	42	33	27	30	30	51
90°	0	0	0	0	0	



TEST NUMBER: P584539

CATALOG NUMBER: HC840D010-HM82555830-81WWW

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3
2.5°	2262.4	2262.4	2265.5	2262.4	2262.4	2262.4	2259.5	2259.5	2256.4	2256.4	2250.4
5°	2295.6	2289.7	2295.6	2289.7	2289.7	2289.7	2286.6	2280.6	2277.5	2271.5	2268.5
7.5°	2310.7	2307.8	2307.8	2304.8	2304.8	2301.7	2298.7	2295.6	2283.6	2280.6	2271.5
10°	2319.9	2316.8	2316.8	2313.8	2307.8	2307.8	2301.7	2298.7	2283.6	2277.5	2265.5
12.5°	2316.8	2316.8	2316.8	2313.8	2304.8	2301.7	2295.6	2286.6	2274.6	2262.4	2250.4
15°	2307.8	2307.8	2301.7	2298.7	2289.7	2283.6	2280.6	2265.5	2253.4	2238.3	2220.2
17.5°	2277.5	2277.5	2274.6	2268.5	2259.5	2253.4	2247.3	2232.2	2220.2	2196.0	2177.9
20°	2238.3	2235.3	2232.2	2223.2	2214.1	2211.1	2202.1	2180.9	2165.8	2147.7	2123.6
22.5°	2180.9	2177.9	2174.8	2168.8	2153.7	2147.7	2141.6	2126.5	2099.4	2081.2	2051.0
25°	2105.3	2105.3	2099.4	2090.2	2075.1	2069.2	2060.1	2045.0	2020.9	1993.6	1969.4
27.5°	2017.8	2014.8	2005.7	1999.7	1987.5	1978.5	1963.4	1945.3	1921.1	1900.0	1869.7
30°	1906.0	1906.0	1900.0	1890.9	1875.8	1869.7	1857.7	1836.5	1812.4	1785.2	1764.1
32.5°	1779.2	1779.2	1770.1	1764.1	1755.0	1739.9	1736.9	1712.6	1691.6	1670.4	1646.2
35°	1640.2	1643.3	1637.2	1625.1	1610.0	1610.0	1604.0	1582.8	1558.7	1537.5	1519.4
37.5°	1501.3	1492.1	1489.2	1483.1	1474.1	1462.0	1456.0	1446.9	1425.7	1410.6	1383.5
40°	1347.2	1350.2	1344.2	1338.2	1335.2	1326.0	1323.0	1307.9	1292.8	1274.7	1262.6
42.5°	1208.2	1208.2	1208.2	1202.3	1196.2	1187.1	1184.0	1175.0	1156.9	1144.8	1126.7
45°	1084.4	1075.4	1075.4	1072.3	1069.3	1063.3	1054.2	1048.2	1036.1	1027.0	1005.9
47.5°	963.5	966.6	963.5	960.6	951.5	948.4	945.5	933.4	921.3	912.3	897.1
50°	857.9	863.9	857.9	857.9	851.8	848.8	842.8	833.7	824.7	809.6	794.4
52.5°	770.3	770.3	767.2	764.2	755.2	749.1	746.1	743.0	727.9	715.9	703.8
55°	682.7	685.7	685.7	676.6	673.7	667.6	664.5	655.5	649.4	631.3	622.3
57.5°	607.1	604.2	607.1	601.1	595.1	589.0	586.0	580.0	570.8	558.8	546.7
60°	540.7	534.7	534.7	531.7	525.6	522.5	516.6	507.4	498.4	486.4	477.3
62.5°	474.2	471.2	468.1	465.2	459.1	456.1	453.2	444.0	434.9	425.9	416.9
65°	410.8	410.8	407.8	401.7	398.8	395.7	392.7	386.6	374.6	368.5	359.5
67.5°	353.4	350.3	350.3	344.4	338.3	335.3	335.3	329.3	320.2	311.2	305.1
70°	296.1	299.0	296.1	293.0	286.9	286.9	281.0	277.9	265.8	262.8	253.7
72.5°	244.7	244.7	241.7	241.7	235.6	232.6	232.6	226.6	220.5	214.4	208.4
75°	196.4	196.4	196.4	193.4	190.3	184.2	184.2	181.2	175.2	169.1	163.1
77.5°	154.1	151.0	151.0	148.0	144.9	142.0	142.0	139.0	132.9	129.8	123.9
80°	111.7	108.8	108.8	108.8	102.7	105.7	102.7	99.7	96.6	93.7	90.7
82.5°	72.5	75.6	75.6	72.5	69.5	69.5	69.5	66.4	66.4	63.4	60.5
85°	42.2	42.2	42.2	42.2	39.3	39.3	39.3	36.3	36.3	36.3	33.2
87.5°	18.1	18.1	18.1	18.1	18.1	18.1	15.1	15.1	15.1	15.1	15.1
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: P584539

CATALOG NUMBER: HC840D010-HM82555830-81WWW

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3
2.5°	2250.4	2244.3	2241.4	2238.3	2238.3	2235.3	2232.2	2226.3	2226.3	2220.2	2217.2
5°	2262.4	2253.4	2247.3	2241.4	2238.3	2232.2	2226.3	2217.2	2214.1	2205.1	2196.0
7.5°	2265.5	2250.4	2244.3	2232.2	2226.3	2220.2	2208.0	2199.0	2187.0	2177.9	2165.8
10°	2253.4	2241.4	2226.3	2211.1	2208.0	2199.0	2180.9	2168.8	2153.7	2141.6	2123.6
12.5°	2235.3	2217.2	2202.1	2183.9	2174.8	2165.8	2147.7	2129.5	2108.4	2087.3	2069.2
15°	2205.1	2183.9	2162.8	2141.6	2129.5	2120.5	2099.4	2078.2	2057.0	2029.9	2011.7
17.5°	2159.7	2135.6	2114.4	2087.3	2075.1	2066.1	2038.9	2014.8	1987.5	1960.4	1942.3
20°	2102.4	2072.1	2048.0	2017.8	2008.7	1993.6	1966.5	1939.2	1909.0	1878.9	1857.7
22.5°	2026.8	1996.7	1969.4	1939.2	1924.1	1909.0	1881.9	1848.7	1818.4	1794.3	1773.1
25°	1939.2	1912.1	1878.9	1851.6	1833.6	1815.3	1785.2	1758.0	1730.9	1694.6	1673.4
27.5°	1842.6	1809.4	1785.2	1748.9	1730.9	1718.7	1685.5	1649.2	1625.1	1591.9	1567.7
30°	1733.8	1703.6	1676.5	1640.2	1622.1	1610.0	1579.8	1546.5	1522.4	1489.2	1465.0
32.5°	1619.1	1585.8	1552.6	1528.4	1507.3	1495.2	1462.0	1440.9	1410.6	1383.5	1356.2
35°	1495.2	1462.0	1437.9	1404.6	1392.5	1380.4	1353.3	1326.0	1298.9	1274.7	1253.5
37.5°	1362.3	1338.2	1310.9	1286.7	1277.7	1265.7	1232.4	1208.2	1187.1	1163.0	1144.8
40°	1232.4	1211.3	1193.1	1168.9	1153.9	1144.8	1120.6	1099.6	1075.4	1060.3	1042.1
42.5°	1114.7	1090.4	1072.3	1054.2	1039.1	1030.1	1008.9	993.8	975.7	960.6	939.4
45°	990.8	978.7	957.6	942.5	933.4	921.3	906.2	888.1	873.0	860.8	845.7
47.5°	882.0	869.9	854.9	836.7	830.6	821.6	806.5	794.4	782.3	770.3	755.2
50°	782.3	767.2	755.2	743.0	737.1	727.9	712.9	706.9	697.8	685.7	676.6
52.5°	691.7	679.6	667.6	652.5	649.4	643.4	634.4	622.3	613.2	607.1	601.1
55°	610.1	598.1	589.0	576.9	573.9	567.9	555.8	549.8	543.7	537.6	531.7
57.5°	537.6	525.6	513.5	507.4	501.5	495.4	492.4	483.3	477.3	474.2	468.1
60°	471.2	459.1	450.1	441.0	438.0	434.9	428.9	422.9	416.9	410.8	407.8
62.5°	407.8	395.7	389.6	383.7	377.6	377.6	371.5	365.4	359.5	356.4	350.3
65°	350.3	344.4	335.3	326.2	323.2	323.2	314.2	311.2	308.1	302.0	296.1
67.5°	296.1	290.0	281.0	277.9	274.9	271.9	268.8	262.8	256.8	253.7	247.6
70°	247.6	241.7	235.6	232.6	229.6	226.6	220.5	217.5	211.5	208.4	205.4
72.5°	199.3	196.4	190.3	187.3	184.2	181.2	178.3	175.2	169.1	166.1	163.1
75°	160.1	157.1	151.0	148.0	144.9	144.9	142.0	135.9	132.9	132.9	129.8
77.5°	120.8	117.8	114.8	111.7	108.8	108.8	105.7	102.7	99.7	99.7	96.6
80°	87.6	84.6	81.5	81.5	81.5	78.5	75.6	75.6	72.5	72.5	69.5
82.5°	57.4	57.4	54.4	54.4	54.4	51.4	51.4	48.3	48.3	48.3	48.3
85°	33.2	33.2	33.2	30.2	30.2	30.2	30.2	30.2	30.2	27.1	30.2
87.5°	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	12.1	12.1	12.1
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: P584539

CATALOG NUMBER: HC840D010-HM82555830-81WWW

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3
2.5°	2214.1	2211.1	2205.1	2205.1	2199.0	2199.0	2196.0	2192.9	2190.0	2187.0	2183.9
5°	2192.9	2180.9	2174.8	2171.9	2165.8	2162.8	2153.7	2147.7	2144.6	2138.7	2132.6
7.5°	2153.7	2141.6	2129.5	2126.5	2123.6	2111.4	2102.4	2093.3	2087.3	2081.2	2075.1
10°	2108.4	2096.3	2081.2	2075.1	2069.2	2054.1	2041.9	2032.9	2020.9	2008.7	2005.7
12.5°	2054.1	2035.9	2017.8	2011.7	2002.7	1987.5	1975.5	1960.4	1951.4	1936.2	1933.2
15°	1990.6	1969.4	1954.3	1939.2	1933.2	1918.2	1897.0	1884.8	1866.8	1860.7	1845.6
17.5°	1915.1	1893.9	1872.8	1866.8	1857.7	1836.5	1815.3	1800.4	1782.1	1773.1	1764.1
20°	1836.5	1809.4	1788.2	1782.1	1770.1	1751.9	1730.9	1715.7	1700.6	1682.5	1673.4
22.5°	1746.0	1715.7	1697.7	1682.5	1679.4	1658.4	1634.1	1622.1	1610.0	1595.0	1582.8
25°	1646.2	1619.1	1597.9	1585.8	1579.8	1561.6	1543.5	1528.4	1510.3	1501.3	1486.2
27.5°	1543.5	1525.5	1498.2	1486.2	1477.1	1462.0	1440.9	1431.8	1413.6	1401.6	1392.5
30°	1443.8	1416.7	1401.6	1386.5	1377.4	1362.3	1344.2	1335.2	1320.1	1307.9	1298.9
32.5°	1335.2	1317.0	1295.9	1289.8	1277.7	1262.6	1250.6	1235.5	1223.3	1211.3	1208.2
35°	1235.5	1211.3	1190.1	1184.0	1175.0	1159.9	1153.9	1144.8	1129.7	1126.7	1114.7
37.5°	1126.7	1114.7	1090.4	1081.4	1078.4	1066.2	1054.2	1048.2	1039.1	1030.1	1027.0
40°	1024.0	1008.9	996.9	987.7	981.8	972.6	960.6	957.6	951.5	939.4	936.4
42.5°	927.4	912.3	900.1	897.1	888.1	879.1	873.0	863.9	860.8	857.9	851.8
45°	833.7	824.7	812.5	809.6	806.5	794.4	788.4	782.3	776.4	773.3	767.2
47.5°	749.1	740.1	731.0	727.9	722.0	718.9	709.8	706.9	697.8	694.7	691.7
50°	667.6	661.5	655.5	652.5	646.4	643.4	637.4	631.3	625.2	622.3	619.3
52.5°	595.1	589.0	583.0	580.0	576.9	570.8	564.9	558.8	555.8	552.8	549.8
55°	525.6	519.6	516.6	513.5	510.5	507.4	498.4	495.4	492.4	489.3	483.3
57.5°	462.2	456.1	450.1	450.1	447.1	444.0	438.0	432.0	432.0	425.9	419.8
60°	404.7	398.8	392.7	389.6	386.6	380.6	377.6	374.6	371.5	368.5	362.5
62.5°	344.4	341.3	335.3	335.3	329.3	326.2	323.2	320.2	317.1	311.2	308.1
65°	293.0	290.0	283.9	281.0	281.0	277.9	271.9	268.8	265.8	265.8	262.8
67.5°	244.7	241.7	235.6	232.6	232.6	229.6	226.6	226.6	223.5	220.5	223.5
70°	202.4	196.4	196.4	193.4	193.4	190.3	187.3	187.3	187.3	190.3	190.3
72.5°	160.1	157.1	154.1	154.1	154.1	154.1	151.0	151.0	154.1	157.1	157.1
75°	126.9	123.9	123.9	123.9	120.8	120.8	123.9	123.9	126.9	126.9	126.9
77.5°	93.7	93.7	93.7	93.7	93.7	93.7	96.6	96.6	99.7	99.7	99.7
80°	69.5	69.5	69.5	69.5	69.5	72.5	72.5	72.5	72.5	72.5	75.6
82.5°	48.3	48.3	48.3	48.3	48.3	48.3	48.3	51.4	51.4	51.4	51.4
85°	27.1	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2
87.5°	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
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: P584539

CATALOG NUMBER: HC840D010-HM82555830-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3	2226.3
2.5°	2180.9	2180.9	2180.9	2183.9	2177.9	2177.9	2177.9	2177.9
5°	2129.5	2126.5	2123.6	2126.5	2120.5	2120.5	2117.5	2117.5
7.5°	2066.1	2063.1	2060.1	2060.1	2054.1	2054.1	2051.0	2048.0
10°	1996.7	1990.6	1993.6	1987.5	1984.6	1981.6	1978.5	1975.5
12.5°	1921.1	1915.1	1912.1	1906.0	1900.0	1897.0	1900.0	1893.9
15°	1839.6	1830.5	1827.5	1821.4	1815.3	1812.4	1812.4	1809.4
17.5°	1748.9	1742.9	1739.9	1733.8	1730.9	1724.8	1721.8	1718.7
20°	1664.3	1649.2	1652.3	1646.2	1643.3	1631.1	1631.1	1634.1
22.5°	1570.7	1561.6	1555.7	1549.6	1546.5	1540.6	1540.6	1537.5
25°	1477.1	1468.0	1465.0	1458.9	1456.0	1449.9	1446.9	1446.9
27.5°	1386.5	1374.4	1374.4	1368.4	1362.3	1359.3	1356.2	1353.3
30°	1289.8	1280.8	1277.7	1277.7	1274.7	1274.7	1265.7	1268.7
32.5°	1199.2	1193.1	1190.1	1184.0	1184.0	1181.1	1181.1	1172.0
35°	1108.6	1099.6	1102.5	1096.5	1093.5	1090.4	1093.5	1090.4
37.5°	1021.0	1015.0	1015.0	1008.9	1008.9	1005.9	1002.8	1008.9
40°	933.4	930.3	927.4	924.3	927.4	924.3	918.3	921.3
42.5°	845.7	845.7	842.8	842.8	839.8	839.8	839.8	839.8
45°	767.2	764.2	764.2	761.2	761.2	761.2	761.2	758.1
47.5°	688.7	685.7	685.7	685.7	682.7	682.7	679.6	682.7
50°	613.2	613.2	610.1	610.1	613.2	610.1	607.1	607.1
52.5°	543.7	543.7	540.7	540.7	537.6	534.7	537.6	537.6
55°	480.3	477.3	474.2	474.2	471.2	468.1	468.1	471.2
57.5°	419.8	416.9	413.9	413.9	407.8	404.7	404.7	404.7
60°	362.5	356.4	356.4	353.4	353.4	350.3	350.3	350.3
62.5°	308.1	305.1	305.1	305.1	305.1	302.0	302.0	302.0
65°	262.8	262.8	262.8	265.8	265.8	268.8	268.8	268.8
67.5°	226.6	229.6	229.6	229.6	232.6	232.6	232.6	229.6
70°	193.4	193.4	193.4	196.4	196.4	196.4	196.4	196.4
72.5°	160.1	160.1	160.1	160.1	160.1	160.1	160.1	160.1
75°	126.9	129.8	129.8	129.8	126.9	129.8	129.8	126.9
77.5°	99.7	99.7	99.7	99.7	99.7	99.7	99.7	99.7
80°	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6
82.5°	51.4	51.4	51.4	51.4	51.4	51.4	51.4	51.4
85°	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2
87.5°	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
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)