

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: P584538

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584538  
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: HC840D010-HM82555830-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3764.1 lumens  
Efficiency: N/A  
Efficacy: 91.8 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

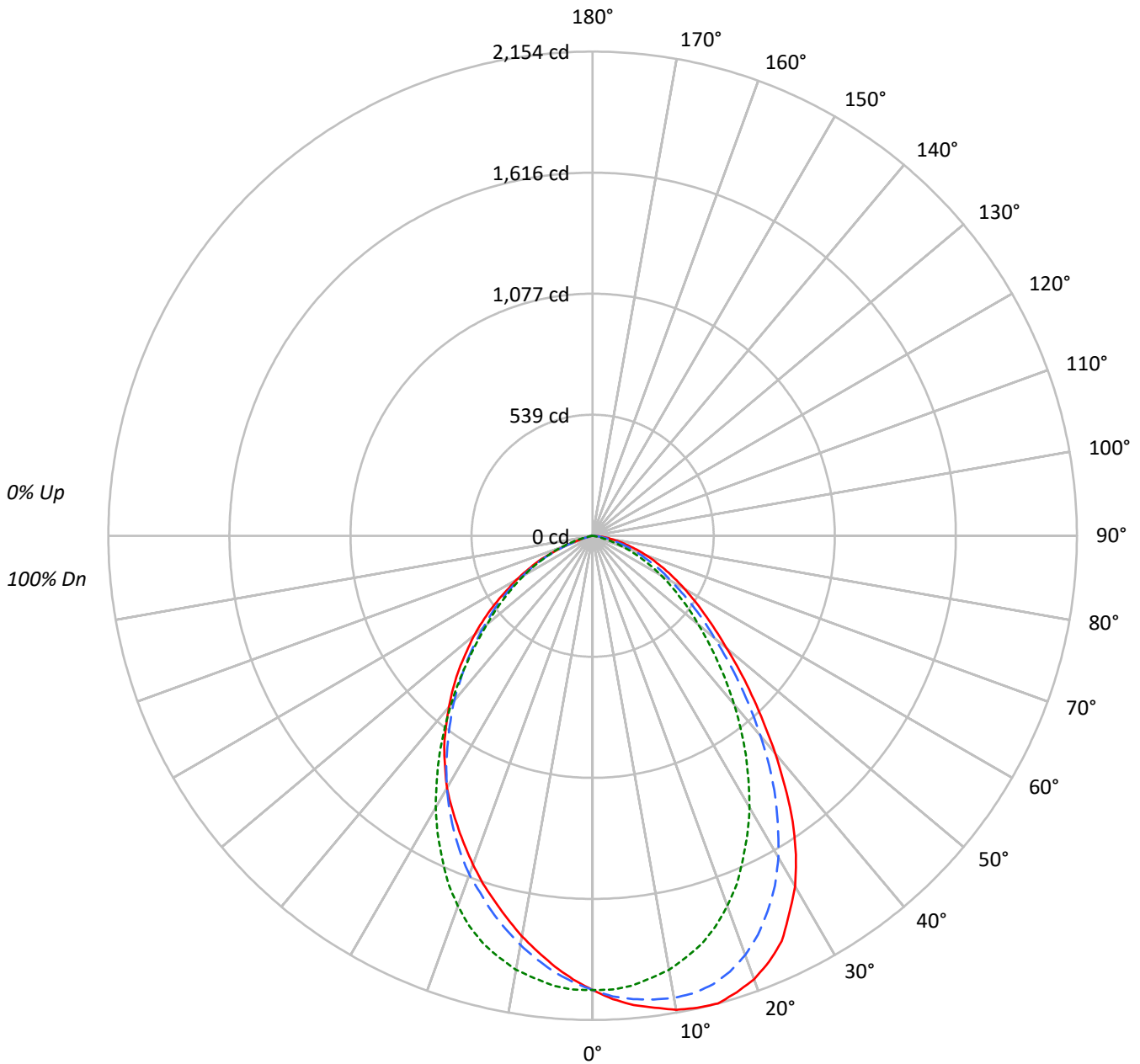
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				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				100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88				88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77				77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67				67
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59				59
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53				53
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47				47
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43				43
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39				39
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35				35
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	62317	62317	62317
5°	64889	62178	59559
10°	67058	61384	56656
15°	68758	59982	53712
20°	68892	57492	51051
25°	67728	53853	48410
30°	64106	49689	46143
35°	58446	44687	43321
40°	50825	39397	40004
45°	43600	34115	36623
50°	37246	29417	32895
55°	32639	25332	28585
60°	29060	21616	24028
65°	25786	17636	19175
70°	22873	13064	10891
75°	19075	6839	3229
80°	15023	2149	533
85°	10685	1061	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.4	5.1
10°-20°	533.7	14.2
20°-30°	755.4	20.1
30°-40°	790.3	21.0
40°-50°	659.2	17.5
50°-60°	467.4	12.4
60°-70°	269.2	7.2
70°-80°	86.6	2.3
80°-90°	11.9	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°	1479.5	39.3
0°-40°	2269.8	60.3
0°-60°	3396.4	90.2
0°-90°	3764.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3764.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2021	2021	2021	2021	2021	
5°	2096	2069	2009	1948	1924	201
15°	2154	2066	1879	1731	1682	606
25°	1991	1843	1583	1456	1423	908
35°	1553	1417	1187	1124	1151	963
45°	1000	918	782	792	840	775
55°	607	544	471	495	532	549
65°	353	296	242	242	263	353
75°	160	118	57	27	27	174
85°	30	15	3	0	0	38
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°	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9
2.5°	2063.1	2060.1	2057.0	2060.1	2057.0	2060.1	2057.0	2057.0	2054.1	2051.1	2051.1
5°	2096.3	2093.3	2093.3	2093.3	2090.4	2087.3	2087.3	2084.3	2078.2	2075.2	2069.2
7.5°	2117.5	2120.5	2120.5	2120.5	2114.5	2114.5	2108.4	2102.4	2096.3	2090.4	2081.2
10°	2141.6	2141.6	2138.7	2135.6	2129.6	2126.5	2123.6	2117.5	2108.4	2096.3	2087.3
12.5°	2150.7	2150.7	2147.7	2141.6	2138.7	2135.6	2132.6	2123.6	2111.4	2096.3	2084.3
15°	2153.8	2147.7	2144.6	2141.6	2135.6	2126.5	2126.5	2114.5	2099.4	2081.2	2066.1
17.5°	2129.6	2132.6	2126.5	2120.5	2111.4	2105.3	2096.3	2087.3	2069.2	2048.0	2032.9
20°	2099.4	2096.3	2093.3	2084.3	2072.1	2069.2	2060.1	2045.0	2029.9	2005.7	1984.6
22.5°	2051.1	2048.0	2041.9	2036.0	2023.8	2017.8	2008.7	1990.6	1969.4	1945.3	1921.1
25°	1990.6	1984.6	1975.5	1963.4	1954.3	1948.3	1936.2	1918.2	1894.0	1866.8	1842.6
27.5°	1894.0	1903.0	1897.0	1878.9	1869.8	1857.7	1854.7	1830.6	1809.4	1782.1	1755.0
30°	1800.4	1800.4	1791.3	1782.1	1767.0	1758.0	1746.0	1727.8	1706.7	1673.5	1652.3
32.5°	1682.5	1679.4	1667.4	1664.3	1652.3	1634.2	1631.1	1607.0	1585.8	1561.6	1534.5
35°	1552.6	1546.5	1534.5	1525.5	1519.4	1510.3	1501.3	1480.1	1458.9	1434.8	1416.7
37.5°	1404.6	1404.6	1401.6	1386.5	1380.4	1374.4	1365.3	1344.2	1332.1	1307.9	1289.8
40°	1262.6	1259.6	1250.6	1247.5	1241.5	1232.5	1226.4	1214.3	1196.2	1178.1	1159.9
42.5°	1123.7	1126.7	1114.7	1117.6	1105.5	1099.6	1096.5	1078.4	1069.3	1051.2	1036.1
45°	999.8	996.9	990.8	987.7	981.8	975.7	969.6	960.6	945.5	927.4	918.3
47.5°	885.0	876.0	876.0	873.0	870.0	857.9	854.9	845.7	836.7	818.6	806.5
50°	776.4	776.4	776.4	773.3	764.2	761.2	755.2	746.1	737.1	724.9	706.9
52.5°	688.7	688.7	688.7	685.7	673.7	670.6	667.6	655.5	643.4	634.4	622.3
55°	607.1	610.2	607.1	601.1	592.0	592.0	583.0	576.9	564.9	555.8	543.7
57.5°	537.6	537.6	531.7	528.6	522.5	519.6	513.5	507.4	492.4	483.3	468.1
60°	471.2	468.1	468.1	462.2	456.1	450.1	447.1	438.0	432.0	416.9	404.7
62.5°	410.8	410.8	404.7	404.7	392.7	392.7	389.6	380.6	371.5	356.4	350.5
65°	353.4	353.4	350.5	347.4	338.3	335.3	332.2	323.2	314.2	305.1	296.1
67.5°	302.0	302.0	296.1	293.0	286.9	283.9	277.9	271.9	262.8	253.7	244.7
70°	253.7	250.7	247.6	244.7	238.6	235.6	229.6	223.5	214.4	208.4	199.3
72.5°	205.4	205.4	202.4	196.4	193.4	190.3	187.3	181.2	172.2	163.1	157.1
75°	160.1	160.1	160.1	154.1	148.0	144.9	144.9	139.0	132.9	123.9	117.8
77.5°	123.9	120.8	117.8	117.8	111.7	108.8	105.7	102.7	93.7	90.7	84.6
80°	84.6	87.6	84.6	81.5	78.5	75.6	75.6	69.5	66.4	60.5	54.4
82.5°	57.4	54.4	54.4	51.4	51.4	48.3	48.3	42.2	39.3	36.3	33.2
85°	30.2	30.2	27.1	27.1	27.1	24.2	24.2	21.2	21.2	18.1	15.1
87.5°	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	6.1	6.1	6.1
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°	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9
2.5°	2048.0	2041.9	2038.9	2038.9	2036.0	2032.9	2029.9	2026.8	2020.9	2020.9	2014.8
5°	2063.1	2057.0	2054.1	2045.0	2038.9	2038.9	2026.8	2023.8	2014.8	2008.7	2002.7
7.5°	2075.2	2063.1	2054.1	2045.0	2038.9	2032.9	2020.9	2008.7	1996.7	1984.6	1978.5
10°	2075.2	2063.1	2048.0	2032.9	2026.8	2020.9	2005.7	1987.5	1972.5	1960.4	1945.3
12.5°	2069.2	2051.1	2032.9	2020.9	2008.7	1999.7	1981.6	1963.4	1945.3	1921.1	1909.1
15°	2051.1	2026.8	2008.7	1987.5	1978.5	1963.4	1948.3	1921.1	1900.0	1878.9	1863.8
17.5°	2014.8	1984.6	1963.4	1942.3	1927.2	1918.2	1894.0	1869.8	1845.6	1821.4	1803.3
20°	1960.4	1933.3	1909.1	1881.9	1869.8	1857.7	1827.5	1803.3	1779.2	1752.0	1733.8
22.5°	1894.0	1866.8	1833.6	1812.4	1794.3	1779.2	1752.0	1724.8	1700.6	1676.5	1652.3
25°	1812.4	1785.2	1755.0	1721.8	1709.7	1694.6	1664.3	1637.2	1610.1	1582.8	1561.6
27.5°	1724.8	1688.5	1664.3	1628.2	1616.0	1600.9	1567.7	1537.5	1513.3	1492.3	1468.0
30°	1619.1	1591.9	1558.7	1525.5	1513.3	1498.2	1471.1	1443.8	1419.7	1395.5	1371.4
32.5°	1504.3	1477.1	1443.8	1419.7	1401.6	1389.6	1362.3	1338.2	1314.0	1289.8	1268.7
35°	1383.5	1353.3	1329.1	1305.0	1289.8	1274.7	1247.5	1226.4	1208.2	1187.1	1166.0
37.5°	1259.6	1238.4	1214.3	1187.1	1172.0	1159.9	1138.8	1114.7	1099.6	1081.4	1066.2
40°	1138.8	1114.7	1093.5	1069.3	1057.2	1048.2	1027.0	1008.9	993.8	978.7	969.6
42.5°	1015.0	993.8	972.7	957.6	948.4	939.4	924.3	903.2	894.2	879.1	870.0
45°	900.1	882.0	866.9	845.7	839.8	833.7	815.6	800.5	791.5	782.3	776.4
47.5°	791.5	779.3	761.2	749.1	740.1	734.0	722.0	709.8	700.8	694.7	688.7
50°	697.8	682.7	670.6	658.5	652.5	643.4	631.3	625.2	619.3	613.2	613.2
52.5°	610.2	595.1	583.0	573.9	567.9	561.8	552.8	549.8	543.7	543.7	540.7
55°	528.6	519.6	507.4	495.4	492.4	489.3	483.3	477.3	474.2	471.2	474.2
57.5°	459.1	450.1	438.0	428.9	425.9	422.9	419.8	413.9	410.8	410.8	410.8
60°	395.7	386.6	377.6	368.5	368.5	362.5	359.5	356.4	353.4	350.5	350.5
62.5°	338.3	329.3	320.2	314.2	311.2	308.1	302.0	299.0	296.1	296.1	293.0
65°	286.9	274.9	271.9	262.8	259.8	256.8	253.7	247.6	244.7	241.7	238.6
67.5°	235.6	229.6	220.5	214.4	211.5	208.4	205.4	199.3	196.4	193.4	187.3
70°	190.3	184.2	178.3	172.2	169.1	166.1	160.1	154.1	151.0	144.9	135.9
72.5°	148.0	142.0	135.9	129.8	126.9	123.9	117.8	111.7	105.7	99.7	93.7
75°	111.7	105.7	96.6	90.7	87.6	87.6	78.5	72.5	66.4	57.4	51.4
77.5°	78.5	69.5	66.4	60.5	57.4	51.4	45.3	39.3	33.2	30.2	24.2
80°	51.4	45.3	39.3	36.3	33.2	30.2	27.1	21.2	15.1	12.1	9.0
82.5°	30.2	27.1	24.2	21.2	18.1	15.1	12.1	12.1	9.0	6.1	3.0
85°	15.1	12.1	9.0	9.0	6.1	6.1	6.1	3.0	3.0	3.0	3.0
87.5°	6.1	3.0	3.0	3.0	3.0	3.0	3.0	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°	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9
2.5°	2011.8	2008.7	2005.7	2002.7	2002.7	1996.7	1996.7	1993.6	1987.5	1984.6	1984.6
5°	1993.6	1984.6	1978.5	1975.5	1972.5	1963.4	1960.4	1954.3	1948.3	1942.3	1939.2
7.5°	1966.5	1951.4	1945.3	1942.3	1933.3	1924.1	1918.2	1909.1	1900.0	1890.9	1887.9
10°	1933.3	1918.2	1903.0	1897.0	1887.9	1881.9	1869.8	1857.7	1848.7	1839.6	1830.6
12.5°	1890.9	1872.8	1857.7	1851.6	1842.6	1830.6	1812.4	1806.3	1791.3	1785.2	1773.1
15°	1842.6	1821.4	1806.3	1797.3	1788.2	1770.1	1758.0	1746.0	1730.9	1724.8	1712.8
17.5°	1782.1	1758.0	1742.9	1733.8	1727.8	1712.8	1694.6	1679.4	1664.3	1658.4	1649.3
20°	1709.7	1694.6	1673.5	1664.3	1658.4	1640.2	1622.1	1616.0	1604.0	1591.9	1582.8
22.5°	1628.2	1613.0	1591.9	1582.8	1579.8	1564.7	1549.6	1540.6	1531.5	1522.4	1513.3
25°	1543.5	1525.5	1507.3	1501.3	1495.2	1483.1	1471.1	1465.0	1456.0	1449.9	1443.8
27.5°	1453.0	1434.8	1419.7	1410.6	1404.6	1395.5	1389.6	1383.5	1377.4	1371.4	1368.4
30°	1356.2	1338.2	1326.0	1320.1	1314.0	1311.0	1301.9	1298.9	1295.9	1289.8	1292.8
32.5°	1259.6	1244.5	1232.5	1223.3	1223.3	1217.4	1214.3	1214.3	1211.3	1211.3	1211.3
35°	1153.9	1144.8	1135.7	1132.8	1129.8	1126.7	1123.7	1126.7	1123.7	1126.7	1129.8
37.5°	1057.2	1048.2	1042.1	1039.1	1036.1	1039.1	1036.1	1036.1	1039.1	1045.2	1048.2
40°	957.6	951.5	945.5	948.4	945.5	945.5	945.5	954.5	957.6	960.6	963.5
42.5°	863.9	857.9	854.9	854.9	857.9	854.9	860.8	863.9	870.0	879.1	885.0
45°	773.3	770.3	770.3	773.3	770.3	776.4	776.4	782.3	791.5	797.4	803.5
47.5°	688.7	688.7	688.7	691.7	691.7	694.7	700.8	703.8	709.8	715.9	722.0
50°	610.2	613.2	616.2	616.2	616.2	622.3	628.3	631.3	634.4	637.4	646.4
52.5°	540.7	543.7	543.7	546.7	549.8	552.8	555.8	561.8	564.9	571.0	573.9
55°	474.2	474.2	480.3	483.3	483.3	483.3	489.3	489.3	495.4	498.4	504.4
57.5°	410.8	413.9	413.9	416.9	416.9	419.8	422.9	425.9	428.9	432.0	434.9
60°	350.5	350.5	350.5	353.4	356.4	359.5	356.4	362.5	362.5	368.5	371.5
62.5°	293.0	296.1	296.1	296.1	296.1	296.1	296.1	299.0	302.0	305.1	308.1
65°	238.6	238.6	238.6	235.6	238.6	235.6	238.6	241.7	241.7	244.7	247.6
67.5°	184.2	184.2	178.3	178.3	181.2	181.2	181.2	181.2	178.3	184.2	184.2
70°	132.9	129.8	126.9	123.9	123.9	120.8	120.8	117.8	117.8	117.8	117.8
72.5°	87.6	81.5	75.6	72.5	69.5	69.5	63.4	60.5	63.4	63.4	63.4
75°	45.3	39.3	36.3	33.2	30.2	30.2	27.1	27.1	27.1	27.1	27.1
77.5°	18.1	15.1	12.1	12.1	9.0	9.0	9.0	9.0	9.0	9.0	9.0
80°	6.1	6.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
82.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
85°	3.0	0.0	0.0	3.0	0.0	3.0	3.0	3.0	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: P584538

CATALOG NUMBER: HC840D010-HM82555830-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9	2020.9
2.5°	1981.6	1981.6	1978.5	1981.6	1975.5	1978.5	1975.5	1975.5
5°	1936.2	1930.2	1930.2	1930.2	1927.2	1927.2	1924.1	1924.1
7.5°	1881.9	1878.9	1875.8	1872.8	1869.8	1866.8	1866.8	1866.8
10°	1827.5	1821.4	1821.4	1818.4	1812.4	1809.4	1809.4	1809.4
12.5°	1764.1	1761.1	1758.0	1758.0	1746.0	1748.9	1746.0	1746.0
15°	1703.6	1700.6	1700.6	1691.6	1685.5	1685.5	1685.5	1682.5
17.5°	1640.2	1637.2	1634.2	1628.2	1622.1	1622.1	1619.1	1622.1
20°	1573.8	1570.8	1564.7	1564.7	1561.6	1558.7	1552.6	1555.7
22.5°	1507.3	1501.3	1498.2	1498.2	1495.2	1495.2	1489.2	1489.2
25°	1437.9	1434.8	1431.8	1434.8	1428.7	1428.7	1422.8	1422.8
27.5°	1365.3	1362.3	1362.3	1362.3	1359.3	1362.3	1359.3	1359.3
30°	1292.8	1292.8	1289.8	1289.8	1292.8	1289.8	1292.8	1295.9
32.5°	1214.3	1214.3	1217.4	1217.4	1220.3	1220.3	1220.3	1220.3
35°	1132.8	1138.8	1138.8	1141.8	1144.8	1147.9	1147.9	1150.8
37.5°	1057.2	1060.3	1063.3	1066.2	1072.3	1072.3	1072.3	1072.3
40°	975.7	978.7	984.7	981.8	993.8	996.9	993.8	993.8
42.5°	891.1	897.1	900.1	906.2	909.2	915.2	918.3	918.3
45°	812.5	815.6	821.6	827.6	830.7	839.8	839.8	839.8
47.5°	731.0	737.1	740.1	746.1	749.1	758.1	761.2	758.1
50°	652.5	658.5	664.5	664.5	673.7	676.6	682.7	685.7
52.5°	576.9	580.0	586.0	589.0	595.1	601.1	604.2	607.1
55°	504.4	507.4	513.5	513.5	522.5	525.6	531.7	531.7
57.5°	438.0	441.0	447.1	444.0	450.1	456.1	456.1	453.2
60°	374.6	374.6	374.6	380.6	383.7	386.6	389.6	389.6
62.5°	308.1	314.2	317.1	317.1	320.2	323.2	323.2	320.2
65°	247.6	253.7	256.8	256.8	259.8	259.8	259.8	262.8
67.5°	187.3	187.3	187.3	190.3	187.3	187.3	187.3	187.3
70°	117.8	117.8	117.8	117.8	114.8	117.8	117.8	120.8
72.5°	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4
75°	27.1	27.1	27.1	30.2	27.1	27.1	27.1	27.1
77.5°	12.1	9.0	12.1	12.1	9.0	9.0	9.0	9.0
80°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
82.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
85°	0.0	3.0	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



Report Generated By 670245859 / DESKTOP-HRDQ47P





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















(END OF REPORT)