

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: P584540

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584540
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: HC840D010-HM82555830-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4277.7 lumens
Efficiency: N/A
Efficacy: 104.3 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

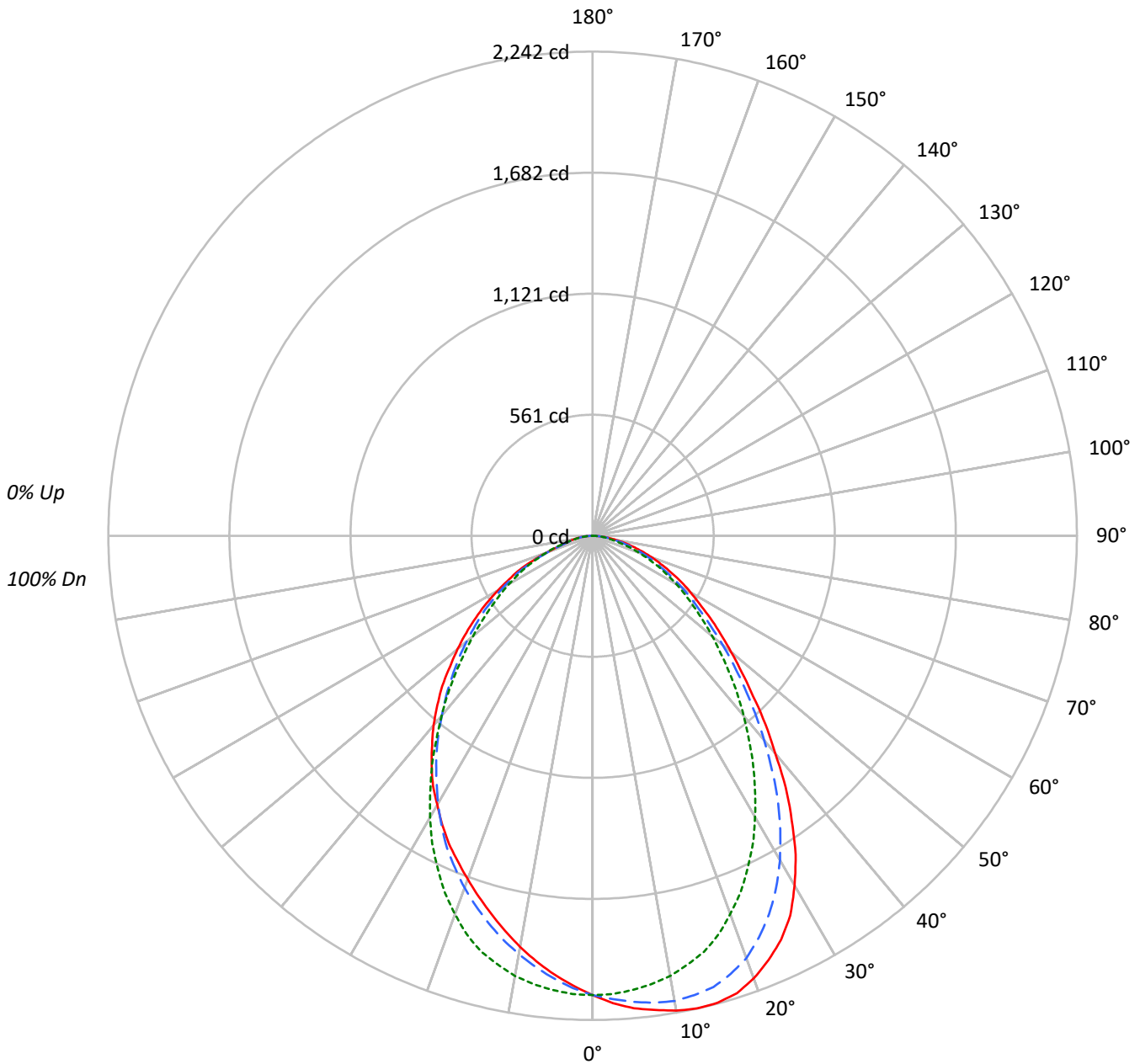
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	65586	65586	65586
5°	67988	65369	63125
10°	69910	64800	60542
15°	71468	63657	57869
20°	71580	61168	55517
25°	70209	57770	53554
30°	66588	53570	51206
35°	60502	48787	48904
40°	52902	43784	46091
45°	45851	39000	42946
50°	40144	34641	39131
55°	35730	30698	35413
60°	32230	27574	31120
65°	29098	24254	27114
70°	26146	20430	20160
75°	23042	16191	15119
80°	19321	13425	14473
85°	14931	11746	12843



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.6	4.7
10°-20°	565.1	13.2
20°-30°	807.7	18.9
30°-40°	858.2	20.1
40°-50°	738.9	17.3
50°-60°	552.4	12.9
60°-70°	352.4	8.2
70°-80°	160.4	3.7
80°-90°	42.1	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°	1573.5	36.8
0°-40°	2431.6	56.8
0°-60°	3722.9	87.0
0°-90°	4277.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4277.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2127	2127	2127	2127	2127	
5°	2196	2166	2112	2057	2039	210
15°	2239	2163	1994	1858	1813	631
25°	2064	1934	1698	1595	1574	945
35°	1607	1496	1296	1263	1299	1001
45°	1051	994	894	918	985	817
55°	665	610	571	619	659	598
65°	399	353	332	348	372	398
75°	193	166	136	124	127	205
85°	42	36	33	36	36	51
90°	0	0	0	0	0	



TEST NUMBER: P584540

CATALOG NUMBER: HC840D010-HM82555830-81WWWB

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9
2.5°	2166.2	2160.1	2163.2	2160.1	2163.2	2163.2	2157.1	2157.1	2157.1	2157.1	2148.1
5°	2196.4	2193.4	2193.4	2190.3	2187.3	2190.3	2187.3	2184.4	2178.3	2175.2	2166.2
7.5°	2214.5	2214.5	2214.5	2214.5	2211.5	2208.5	2205.4	2199.4	2193.4	2187.3	2181.3
10°	2232.7	2235.7	2232.7	2229.6	2226.6	2220.5	2217.6	2211.5	2202.5	2193.4	2187.3
12.5°	2241.7	2241.7	2238.7	2238.7	2232.7	2229.6	2220.5	2211.5	2202.5	2193.4	2178.3
15°	2238.7	2238.7	2235.7	2232.7	2223.6	2220.5	2214.5	2205.4	2190.3	2178.3	2163.2
17.5°	2220.5	2217.6	2211.5	2211.5	2199.4	2196.4	2190.3	2178.3	2163.2	2145.1	2126.9
20°	2181.3	2181.3	2178.3	2175.2	2163.2	2154.1	2148.1	2133.0	2120.8	2099.8	2081.5
22.5°	2126.9	2133.0	2126.9	2120.8	2105.7	2102.7	2093.7	2075.6	2057.4	2033.2	2012.1
25°	2063.5	2060.5	2057.4	2051.3	2039.3	2033.2	2021.2	2003.0	1984.9	1957.7	1933.5
27.5°	1981.9	1969.8	1969.8	1957.7	1948.6	1939.6	1933.5	1915.4	1891.3	1870.1	1839.9
30°	1870.1	1873.2	1858.1	1855.0	1839.9	1833.9	1821.8	1803.7	1782.5	1758.3	1734.2
32.5°	1749.3	1740.3	1740.3	1728.1	1716.0	1706.9	1704.0	1682.8	1664.7	1640.5	1616.4
35°	1607.2	1607.2	1598.2	1595.2	1583.1	1577.1	1567.9	1555.9	1534.7	1513.6	1495.5
37.5°	1468.3	1462.3	1459.2	1453.2	1444.1	1435.0	1435.0	1414.0	1410.9	1386.7	1362.6
40°	1314.2	1320.3	1314.2	1305.2	1302.1	1296.0	1293.1	1281.0	1271.9	1250.8	1235.7
42.5°	1184.3	1178.2	1178.2	1175.2	1163.1	1163.1	1157.2	1151.1	1136.0	1129.9	1111.8
45°	1051.4	1057.4	1048.4	1051.4	1039.2	1039.2	1039.2	1027.2	1015.1	1006.0	994.0
47.5°	936.5	939.6	939.6	930.6	927.5	927.5	921.4	915.5	906.3	894.3	885.2
50°	836.8	839.9	833.8	830.9	824.8	821.8	821.8	809.7	803.6	791.6	785.5
52.5°	746.2	746.2	743.2	743.2	734.1	734.1	728.2	719.0	713.0	707.0	691.9
55°	664.6	664.6	661.6	658.7	658.7	649.5	646.5	637.5	631.4	619.4	610.2
57.5°	586.1	589.2	586.1	583.1	580.1	577.0	571.0	561.9	555.8	546.8	540.7
60°	522.6	522.6	519.7	516.6	510.6	507.5	504.6	498.5	489.4	483.4	474.3
62.5°	462.2	459.2	456.2	453.2	447.1	447.1	441.1	435.1	426.0	420.0	413.9
65°	398.8	398.8	395.8	395.8	392.7	386.8	383.7	380.7	368.5	365.6	353.4
67.5°	341.4	344.4	338.3	338.3	332.4	332.4	329.3	320.2	317.3	311.2	305.1
70°	290.0	290.0	290.0	287.0	281.0	278.0	274.9	268.9	265.8	259.8	253.8
72.5°	238.7	238.7	235.6	235.6	232.6	229.6	226.6	220.5	220.5	214.6	208.5
75°	193.4	193.4	190.3	187.3	184.3	184.3	181.2	178.3	172.2	169.2	166.1
77.5°	148.0	148.0	148.0	145.1	142.0	142.0	142.0	135.9	129.9	129.9	126.9
80°	108.8	108.8	105.8	105.8	102.7	102.7	102.7	99.7	96.6	93.7	90.7
82.5°	72.5	72.5	72.5	72.5	69.5	69.5	69.5	66.5	63.4	63.4	63.4
85°	42.2	42.2	42.2	42.2	39.3	39.3	39.3	39.3	39.3	36.3	36.3
87.5°	18.1	15.1	18.1	15.1	18.1	15.1	18.1	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: P584540

CATALOG NUMBER: HC840D010-HM82555830-81WWWB

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9
2.5°	2151.0	2148.1	2145.1	2142.0	2142.0	2139.0	2133.0	2130.0	2126.9	2123.9	2123.9
5°	2163.2	2160.1	2154.1	2148.1	2145.1	2139.0	2133.0	2126.9	2120.8	2111.8	2108.8
7.5°	2172.2	2163.2	2157.1	2145.1	2142.0	2135.9	2126.9	2117.8	2105.7	2093.7	2084.6
10°	2172.2	2160.1	2151.0	2135.9	2130.0	2123.9	2111.8	2096.7	2081.5	2069.5	2054.4
12.5°	2166.2	2151.0	2135.9	2120.8	2111.8	2102.7	2084.6	2069.5	2051.3	2033.2	2021.2
15°	2145.1	2126.9	2108.8	2090.7	2081.5	2069.5	2051.3	2030.3	2012.1	1994.0	1972.8
17.5°	2105.7	2087.6	2066.4	2045.4	2033.2	2024.2	1996.9	1981.9	1954.7	1936.6	1918.4
20°	2054.4	2033.2	2006.1	1984.9	1969.8	1960.8	1939.6	1912.4	1891.3	1864.0	1845.9
22.5°	1987.9	1960.8	1933.5	1912.4	1897.3	1885.2	1858.1	1830.8	1812.7	1788.6	1767.4
25°	1909.4	1882.2	1855.0	1824.7	1809.6	1797.6	1773.5	1749.3	1725.1	1697.9	1679.8
27.5°	1815.7	1785.5	1761.3	1734.2	1719.1	1700.9	1673.7	1649.6	1625.4	1607.2	1583.1
30°	1713.0	1679.8	1655.6	1628.4	1613.3	1598.2	1571.0	1546.9	1525.7	1504.5	1492.5
32.5°	1589.1	1565.0	1540.8	1513.6	1501.5	1492.5	1465.2	1441.1	1416.9	1398.8	1389.7
35°	1471.3	1444.1	1423.0	1398.8	1383.7	1374.7	1350.4	1329.3	1317.2	1296.0	1284.0
37.5°	1347.4	1326.3	1302.1	1277.9	1268.9	1259.9	1241.6	1220.6	1202.4	1187.3	1181.3
40°	1217.5	1199.4	1178.2	1163.1	1154.1	1145.0	1129.9	1114.8	1102.8	1087.7	1081.6
42.5°	1093.6	1081.6	1063.5	1045.3	1036.3	1033.3	1015.1	1003.1	997.0	990.9	984.8
45°	981.9	963.8	951.6	939.6	930.6	924.5	915.5	906.3	900.4	894.3	888.2
47.5°	873.1	858.0	846.0	836.8	827.8	824.8	818.7	809.7	803.6	803.6	803.6
50°	773.4	761.4	749.2	743.2	740.2	734.1	728.2	725.1	722.1	722.1	722.1
52.5°	685.8	673.8	664.6	658.7	658.7	652.6	646.5	643.6	643.6	643.6	643.6
55°	604.3	595.1	589.2	583.1	577.0	574.1	574.1	574.1	571.0	571.0	574.1
57.5°	531.7	525.7	516.6	510.6	507.5	507.5	504.6	501.5	504.6	507.5	510.6
60°	465.3	459.2	456.2	447.1	447.1	447.1	444.1	444.1	444.1	447.1	450.2
62.5°	404.8	401.9	395.8	392.7	389.7	389.7	386.8	386.8	386.8	386.8	389.7
65°	350.5	344.4	338.3	338.3	338.3	335.3	335.3	329.3	332.4	332.4	329.3
67.5°	299.0	293.1	290.0	287.0	283.9	283.9	281.0	278.0	274.9	274.9	274.9
70°	250.7	244.7	244.7	238.7	238.7	235.6	232.6	232.6	229.6	226.6	223.6
72.5°	202.4	199.4	196.4	193.4	193.4	193.4	190.3	187.3	184.3	181.2	175.3
75°	160.2	160.2	154.1	151.0	151.0	148.0	145.1	142.0	139.0	135.9	132.9
77.5°	123.9	120.9	114.8	111.7	111.7	111.7	108.8	105.8	102.7	99.7	96.6
80°	90.7	87.6	84.6	81.5	81.5	81.5	78.5	78.5	75.6	75.6	75.6
82.5°	60.5	60.5	57.4	57.4	57.4	57.4	54.4	54.4	54.4	54.4	54.4
85°	36.3	36.3	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2
87.5°	15.1	15.1	15.1	15.1	15.1	15.1	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: P584540

CATALOG NUMBER: HC840D010-HM82555830-81WWWB

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9
2.5°	2117.8	2117.8	2111.8	2108.8	2105.7	2108.8	2102.7	2099.8	2096.7	2096.7	2093.7
5°	2099.8	2096.7	2084.6	2081.5	2078.6	2075.6	2069.5	2063.5	2057.4	2054.4	2051.3
7.5°	2075.6	2066.4	2054.4	2051.3	2048.3	2039.3	2030.3	2024.2	2015.1	2012.1	2006.1
10°	2042.3	2030.3	2021.2	2012.1	2006.1	1996.9	1987.9	1978.9	1966.8	1963.7	1954.7
12.5°	2003.0	1987.9	1969.8	1966.8	1957.7	1945.6	1933.5	1924.5	1915.4	1909.4	1900.3
15°	1954.7	1939.6	1921.5	1912.4	1903.3	1894.2	1879.1	1867.1	1858.1	1848.9	1839.9
17.5°	1897.3	1879.1	1864.0	1855.0	1848.9	1833.9	1821.8	1806.7	1797.6	1788.6	1779.5
20°	1827.8	1812.7	1791.5	1782.5	1779.5	1767.4	1752.3	1746.2	1734.2	1725.1	1719.1
22.5°	1749.3	1734.2	1716.0	1710.0	1697.9	1691.8	1676.7	1670.8	1664.7	1655.6	1652.6
25°	1661.6	1646.5	1631.5	1628.4	1619.4	1613.3	1604.2	1595.2	1595.2	1586.2	1586.2
27.5°	1571.0	1555.9	1543.8	1537.8	1534.7	1528.7	1519.6	1516.7	1513.6	1510.6	1510.6
30°	1474.3	1456.2	1450.1	1447.2	1444.1	1438.1	1435.0	1429.1	1432.0	1435.0	1432.0
32.5°	1371.6	1365.5	1353.5	1347.4	1350.4	1347.4	1341.4	1347.4	1344.5	1350.4	1353.5
35°	1271.9	1265.9	1259.9	1259.9	1253.8	1253.8	1253.8	1256.8	1262.8	1265.9	1271.9
37.5°	1175.2	1166.2	1163.1	1160.1	1163.1	1163.1	1163.1	1169.2	1175.2	1181.3	1190.4
40°	1072.5	1066.5	1066.5	1066.5	1066.5	1075.5	1072.5	1078.6	1084.6	1093.6	1102.8
42.5°	975.8	975.8	978.9	978.9	978.9	978.9	984.8	994.0	1003.1	1012.1	1021.1
45°	885.2	885.2	885.2	891.2	891.2	894.3	906.3	912.4	918.4	927.5	936.5
47.5°	800.6	800.6	803.6	806.7	809.7	815.7	821.8	830.9	839.9	846.0	855.0
50°	722.1	725.1	731.1	737.2	737.2	740.2	749.2	755.3	761.4	770.4	773.4
52.5°	646.5	652.6	658.7	661.6	664.6	670.7	673.8	682.8	685.8	694.8	697.9
55°	577.0	580.1	589.2	592.1	592.1	598.2	604.3	610.2	619.4	619.4	625.3
57.5°	513.6	516.6	522.6	525.7	522.6	531.7	534.8	540.7	543.8	549.9	552.9
60°	450.2	456.2	459.2	459.2	462.2	465.3	471.4	471.4	477.3	483.4	483.4
62.5°	389.7	392.7	395.8	398.8	401.9	398.8	407.8	407.8	413.9	417.0	422.9
65°	332.4	335.3	335.3	338.3	338.3	341.4	341.4	344.4	347.5	353.4	356.5
67.5°	274.9	274.9	274.9	278.0	274.9	278.0	278.0	281.0	281.0	287.0	290.0
70°	223.6	220.5	217.5	217.5	217.5	217.5	214.6	217.5	217.5	220.5	220.5
72.5°	172.2	169.2	166.1	163.1	163.1	160.2	157.1	160.2	160.2	163.1	163.1
75°	129.9	123.9	123.9	123.9	120.9	120.9	120.9	123.9	123.9	123.9	126.9
77.5°	96.6	96.6	93.7	93.7	93.7	96.6	96.6	99.7	99.7	99.7	99.7
80°	72.5	75.6	75.6	75.6	75.6	78.5	78.5	78.5	78.5	81.5	81.5
82.5°	54.4	54.4	54.4	54.4	57.4	57.4	57.4	57.4	57.4	57.4	57.4
85°	33.2	36.3	36.3	33.2	36.3	36.3	36.3	36.3	36.3	36.3	36.3
87.5°	15.1	15.1	15.1	15.1	15.1	15.1	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: P584540

CATALOG NUMBER: HC840D010-HM82555830-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9	2126.9
2.5°	2090.7	2090.7	2090.7	2090.7	2087.6	2087.6	2087.6	2084.6
5°	2045.4	2045.4	2045.4	2039.3	2042.3	2042.3	2036.3	2039.3
7.5°	2000.0	1996.9	1994.0	1994.0	1991.0	1987.9	1984.9	1987.9
10°	1948.6	1939.6	1939.6	1936.6	1936.6	1930.5	1930.5	1933.5
12.5°	1891.3	1885.2	1885.2	1882.2	1879.1	1876.2	1873.2	1873.2
15°	1833.9	1827.8	1824.7	1821.8	1818.8	1812.7	1815.7	1812.7
17.5°	1776.4	1767.4	1767.4	1764.4	1761.3	1755.2	1755.2	1752.3
20°	1710.0	1706.9	1700.9	1704.0	1700.9	1694.9	1691.8	1691.8
22.5°	1643.5	1643.5	1640.5	1640.5	1637.4	1634.5	1631.5	1631.5
25°	1580.1	1577.1	1580.1	1580.1	1571.0	1571.0	1571.0	1574.0
27.5°	1507.6	1510.6	1507.6	1507.6	1507.6	1507.6	1510.6	1507.6
30°	1435.0	1435.0	1435.0	1438.1	1444.1	1441.1	1441.1	1438.1
32.5°	1356.5	1359.6	1359.6	1362.6	1365.5	1371.6	1371.6	1374.7
35°	1277.9	1284.0	1287.0	1284.0	1293.1	1293.1	1299.1	1299.1
37.5°	1196.4	1199.4	1205.5	1208.4	1214.5	1217.5	1220.6	1220.6
40°	1108.7	1120.9	1123.8	1126.9	1136.0	1136.0	1138.9	1145.0
42.5°	1027.2	1039.2	1042.3	1045.3	1051.4	1060.4	1057.4	1063.5
45°	948.7	957.7	960.7	963.8	972.8	975.8	975.8	984.8
47.5°	864.1	870.1	873.1	879.2	885.2	891.2	897.3	894.3
50°	779.4	788.5	794.6	797.5	806.7	809.7	812.7	815.7
52.5°	703.9	710.0	713.0	716.0	725.1	728.2	731.1	737.2
55°	631.4	634.4	640.5	637.5	646.5	649.5	652.6	658.7
57.5°	558.9	561.9	565.0	565.0	571.0	577.0	580.1	583.1
60°	489.4	495.5	498.5	498.5	498.5	504.6	504.6	504.6
62.5°	426.0	426.0	429.0	429.0	435.1	435.1	435.1	435.1
65°	359.5	362.6	365.6	365.6	371.6	368.5	374.6	371.6
67.5°	290.0	290.0	296.1	296.1	293.1	296.1	296.1	296.1
70°	220.5	220.5	223.6	223.6	223.6	223.6	223.6	223.6
72.5°	163.1	163.1	163.1	166.1	163.1	163.1	166.1	163.1
75°	126.9	126.9	126.9	126.9	126.9	126.9	126.9	126.9
77.5°	99.7	99.7	102.7	102.7	102.7	102.7	102.7	102.7
80°	81.5	81.5	81.5	81.5	84.6	81.5	81.5	81.5
82.5°	60.5	57.4	60.5	57.4	60.5	60.5	60.5	60.5
85°	36.3	36.3	36.3	36.3	36.3	36.3	36.3	36.3
87.5°	15.1	15.1	15.1	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



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













(END OF REPORT)