

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: P584606

Luminaire Tested: **HC840D010-HM82555930-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584606  
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-HM82555930-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3701.1 lumens  
Efficiency: N/A  
Efficacy: 90.3 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

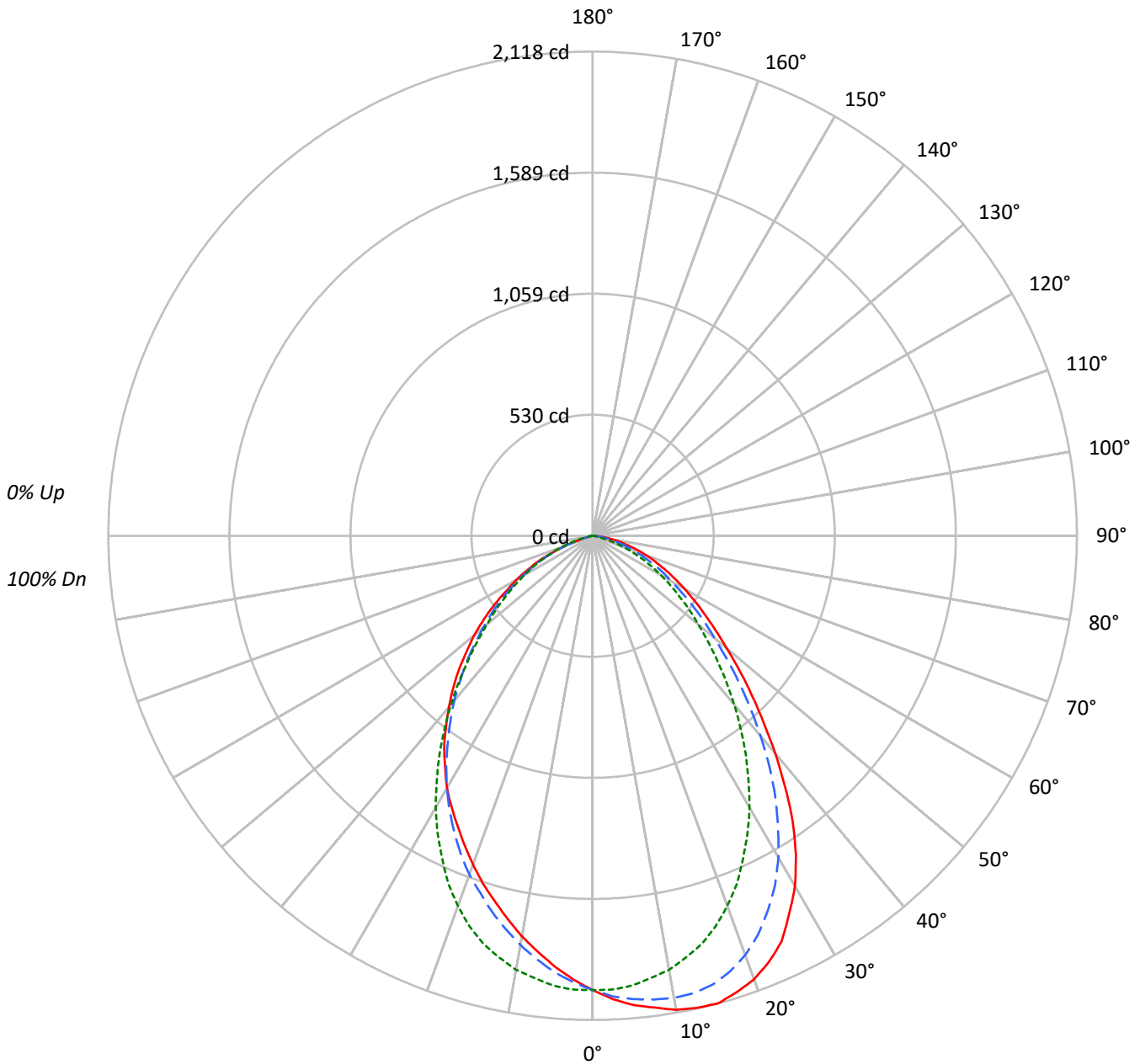
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					20					
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°	61269	61269	61269
5°	63803	61134	58562
10°	65934	60357	55704
15°	67602	58977	52812
20°	67737	56528	50191
25°	66592	52952	47593
30°	63027	48860	45367
35°	57464	43942	42598
40°	49971	38732	39332
45°	42872	33544	36004
50°	36618	28923	32338
55°	32096	24908	28106
60°	28573	21246	23633
65°	25355	17336	18847
70°	22486	12857	10711
75°	18753	6720	3193
80°	14775	2113	533
85°	10543	1061	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	187.2	5.1
10°-20°	524.8	14.2
20°-30°	742.7	20.1
30°-40°	777.0	21.0
40°-50°	648.1	17.5
50°-60°	459.6	12.4
60°-70°	264.7	7.2
70°-80°	85.2	2.3
80°-90°	11.7	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°	1454.7	39.3
0°-40°	2231.7	60.3
0°-60°	3339.4	90.2
0°-90°	3701.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3701.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1987	1987	1987	1987	1987	
5°	2061	2034	1975	1916	1892	198
15°	2118	2031	1847	1702	1654	595
25°	1957	1812	1556	1432	1399	893
35°	1526	1393	1167	1105	1132	946
45°	983	903	769	778	826	762
55°	597	534	463	487	523	539
65°	348	291	238	238	258	347
75°	157	116	56	27	27	171
85°	30	15	3	0	0	37
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°	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9
2.5°	2028.5	2025.5	2022.5	2025.5	2022.5	2025.5	2022.5	2022.5	2019.5	2016.7	2016.7
5°	2061.2	2058.2	2058.2	2058.2	2055.2	2052.3	2052.3	2049.3	2043.3	2040.4	2034.4
7.5°	2082.0	2085.0	2085.0	2085.0	2079.0	2079.0	2073.1	2067.1	2061.2	2055.2	2046.3
10°	2105.7	2105.7	2102.7	2099.8	2093.8	2090.8	2088.0	2082.0	2073.1	2061.2	2052.3
12.5°	2114.6	2114.6	2111.7	2105.7	2102.7	2099.8	2096.8	2088.0	2076.1	2061.2	2049.3
15°	2117.6	2111.7	2108.7	2105.7	2099.8	2090.8	2090.8	2079.0	2064.2	2046.3	2031.4
17.5°	2093.8	2096.8	2090.8	2085.0	2076.1	2070.1	2061.2	2052.3	2034.4	2013.7	1998.8
20°	2064.2	2061.2	2058.2	2049.3	2037.4	2034.4	2025.5	2010.7	1995.9	1972.1	1951.2
22.5°	2016.7	2013.7	2007.8	2001.8	1989.9	1984.0	1975.0	1957.2	1936.5	1912.7	1888.9
25°	1957.2	1951.2	1942.4	1930.5	1921.6	1915.7	1903.8	1885.9	1862.2	1835.5	1811.7
27.5°	1862.2	1871.2	1865.2	1847.4	1838.4	1826.5	1823.6	1799.9	1779.0	1752.3	1725.6
30°	1770.1	1770.1	1761.2	1752.3	1737.4	1728.6	1716.7	1698.8	1678.0	1645.4	1624.6
32.5°	1654.3	1651.4	1639.5	1636.5	1624.6	1606.7	1603.8	1580.1	1559.3	1535.5	1508.8
35°	1526.5	1520.7	1508.8	1499.9	1493.9	1485.0	1476.1	1455.3	1434.5	1410.7	1392.9
37.5°	1381.0	1381.0	1378.1	1363.3	1357.3	1351.4	1342.4	1321.6	1309.7	1286.0	1268.2
40°	1241.4	1238.6	1229.6	1226.7	1220.7	1211.8	1205.8	1193.9	1176.1	1158.3	1140.5
42.5°	1104.8	1107.8	1096.0	1098.8	1087.1	1081.1	1078.1	1060.3	1051.4	1033.5	1018.8
45°	983.1	980.1	974.1	971.2	965.2	959.3	953.4	944.5	929.6	911.8	902.9
47.5°	870.2	861.3	861.3	858.3	855.4	843.5	840.5	831.6	822.6	804.9	793.0
50°	763.3	763.3	763.3	760.3	751.4	748.4	742.6	733.6	724.7	712.8	695.0
52.5°	677.1	677.1	677.1	674.1	662.4	659.4	656.4	644.5	632.6	623.7	611.8
55°	597.0	600.0	597.0	591.1	582.1	582.1	573.2	567.3	555.4	546.4	534.5
57.5°	528.7	528.7	522.8	519.8	513.8	510.9	504.9	499.0	484.1	475.2	460.3
60°	463.3	460.3	460.3	454.5	448.5	442.6	439.6	430.7	424.7	409.8	397.9
62.5°	403.9	403.9	397.9	397.9	386.2	386.2	383.2	374.3	365.3	350.5	344.5
65°	347.5	347.5	344.5	341.5	332.6	329.6	326.7	317.8	308.9	300.0	291.1
67.5°	297.0	297.0	291.1	288.1	282.1	279.2	273.2	267.3	258.3	249.4	240.6
70°	249.4	246.6	243.6	240.6	234.7	231.7	225.7	219.8	210.9	204.9	196.0
72.5°	201.9	201.9	199.0	193.0	190.0	187.1	184.1	178.1	169.3	160.4	154.5
75°	157.4	157.4	157.4	151.5	145.5	142.6	142.6	136.6	130.7	121.7	115.8
77.5°	121.7	118.8	115.8	115.8	109.8	106.9	104.0	101.0	92.1	89.1	83.2
80°	83.2	86.2	83.2	80.2	77.2	74.3	74.3	68.3	65.3	59.4	53.4
82.5°	56.4	53.4	53.4	50.5	50.5	47.5	47.5	41.5	38.6	35.6	32.7
85°	29.8	29.8	26.8	26.8	26.8	23.8	23.8	20.8	20.8	17.8	14.9
87.5°	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	5.9	5.9	5.9
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9
2.5°	2013.7	2007.8	2004.8	2004.8	2001.8	1998.8	1995.9	1992.9	1986.9	1986.9	1981.0
5°	2028.5	2022.5	2019.5	2010.7	2004.8	2004.8	1992.9	1989.9	1981.0	1975.0	1969.1
7.5°	2040.4	2028.5	2019.5	2010.7	2004.8	1998.8	1986.9	1975.0	1963.1	1951.2	1945.4
10°	2040.4	2028.5	2013.7	1998.8	1992.9	1986.9	1972.1	1954.2	1939.5	1927.6	1912.7
12.5°	2034.4	2016.7	1998.8	1986.9	1975.0	1966.1	1948.3	1930.5	1912.7	1888.9	1877.0
15°	2016.7	1992.9	1975.0	1954.2	1945.4	1930.5	1915.7	1888.9	1868.2	1847.4	1832.5
17.5°	1981.0	1951.2	1930.5	1909.7	1894.8	1885.9	1862.2	1838.4	1814.6	1791.0	1773.1
20°	1927.6	1900.8	1877.0	1850.3	1838.4	1826.5	1796.9	1773.1	1749.3	1722.6	1704.8
22.5°	1862.2	1835.5	1802.8	1782.0	1764.2	1749.3	1722.6	1695.9	1672.1	1648.4	1624.6
25°	1782.0	1755.2	1725.6	1692.9	1681.0	1666.1	1636.5	1609.7	1583.1	1556.3	1535.5
27.5°	1695.9	1660.3	1636.5	1600.8	1589.0	1574.1	1541.4	1511.8	1488.0	1467.2	1443.5
30°	1592.0	1565.2	1532.5	1499.9	1488.0	1473.1	1446.4	1419.7	1395.9	1372.2	1348.4
32.5°	1479.1	1452.3	1419.7	1395.9	1378.1	1366.2	1339.5	1315.7	1292.0	1268.2	1247.4
35°	1360.3	1330.5	1306.9	1283.1	1268.2	1253.3	1226.7	1205.8	1188.0	1167.3	1146.4
37.5°	1238.6	1217.7	1193.9	1167.3	1152.4	1140.5	1119.7	1096.0	1081.1	1063.3	1048.4
40°	1119.7	1096.0	1075.2	1051.4	1039.5	1030.5	1009.8	992.0	977.1	962.2	953.4
42.5°	997.9	977.1	956.3	941.5	932.6	923.7	908.8	888.0	879.2	864.3	855.4
45°	885.0	867.3	852.4	831.6	825.6	819.7	801.9	787.1	778.1	769.2	763.3
47.5°	778.1	766.2	748.4	736.6	727.7	721.7	709.8	697.9	689.0	683.1	677.1
50°	686.0	671.3	659.4	647.5	641.5	632.6	620.7	614.8	608.8	602.9	602.9
52.5°	600.0	585.1	573.2	564.3	558.3	552.4	543.5	540.5	534.5	534.5	531.6
55°	519.8	510.9	499.0	487.1	484.1	481.1	475.2	469.2	466.2	463.3	466.2
57.5°	451.5	442.6	430.7	421.7	418.8	415.8	412.8	406.9	403.9	403.9	403.9
60°	389.1	380.2	371.3	362.4	362.4	356.4	353.4	350.5	347.5	344.5	344.5
62.5°	332.6	323.7	314.9	308.9	305.9	303.0	297.0	294.0	291.1	291.1	288.1
65°	282.1	270.2	267.3	258.3	255.4	252.4	249.4	243.6	240.6	237.6	234.7
67.5°	231.7	225.7	216.8	210.9	207.9	204.9	201.9	196.0	193.0	190.0	184.1
70°	187.1	181.1	175.3	169.3	166.4	163.4	157.4	151.5	148.5	142.6	133.6
72.5°	145.5	139.6	133.6	127.7	124.7	121.7	115.8	109.8	104.0	98.1	92.1
75°	109.8	104.0	95.1	89.1	86.2	86.2	77.2	71.3	65.3	56.4	50.5
77.5°	77.2	68.3	65.3	59.4	56.4	50.5	44.5	38.6	32.7	29.8	23.8
80°	50.5	44.5	38.6	35.6	32.7	29.8	26.8	20.8	14.9	11.9	8.9
82.5°	29.8	26.8	23.8	20.8	17.8	14.9	11.9	11.9	8.9	5.9	3.0
85°	14.9	11.9	8.9	8.9	5.9	5.9	5.9	3.0	3.0	3.0	3.0
87.5°	5.9	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°	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9
2.5°	1978.0	1975.0	1972.1	1969.1	1969.1	1963.1	1963.1	1960.2	1954.2	1951.2	1951.2
5°	1960.2	1951.2	1945.4	1942.4	1939.5	1930.5	1927.6	1921.6	1915.7	1909.7	1906.7
7.5°	1933.5	1918.6	1912.7	1909.7	1900.8	1891.9	1885.9	1877.0	1868.2	1859.3	1856.3
10°	1900.8	1885.9	1871.2	1865.2	1856.3	1850.3	1838.4	1826.5	1817.6	1808.7	1799.9
12.5°	1859.3	1841.4	1826.5	1820.6	1811.7	1799.9	1782.0	1776.1	1761.2	1755.2	1743.4
15°	1811.7	1791.0	1776.1	1767.2	1758.2	1740.4	1728.6	1716.7	1701.8	1695.9	1684.0
17.5°	1752.3	1728.6	1713.7	1704.8	1698.8	1684.0	1666.1	1651.4	1636.5	1630.5	1621.6
20°	1681.0	1666.1	1645.4	1636.5	1630.5	1612.7	1594.8	1589.0	1577.1	1565.2	1556.3
22.5°	1600.8	1586.0	1565.2	1556.3	1553.3	1538.4	1523.6	1514.8	1505.8	1496.9	1488.0
25°	1517.7	1499.9	1482.0	1476.1	1470.1	1458.2	1446.4	1440.5	1431.6	1425.6	1419.7
27.5°	1428.6	1410.7	1395.9	1386.9	1381.0	1372.2	1366.2	1360.3	1354.3	1348.4	1345.4
30°	1333.5	1315.7	1303.9	1297.9	1292.0	1289.0	1280.1	1277.1	1274.1	1268.2	1271.2
32.5°	1238.6	1223.7	1211.8	1202.9	1202.9	1196.9	1193.9	1193.9	1191.0	1191.0	1191.0
35°	1134.5	1125.6	1116.7	1113.7	1110.7	1107.8	1104.8	1107.8	1104.8	1107.8	1110.7
37.5°	1039.5	1030.5	1024.7	1021.7	1018.8	1021.7	1018.8	1018.8	1021.7	1027.6	1030.5
40°	941.5	935.6	929.6	932.6	929.6	929.6	929.6	938.6	941.5	944.5	947.5
42.5°	849.4	843.5	840.5	840.5	843.5	840.5	846.4	849.4	855.4	864.3	870.2
45°	760.3	757.3	757.3	760.3	757.3	763.3	763.3	769.2	778.1	784.1	790.0
47.5°	677.1	677.1	677.1	680.1	680.1	683.1	689.0	692.0	697.9	703.9	709.8
50°	600.0	602.9	605.8	605.8	605.8	611.8	617.7	620.7	623.7	626.7	635.6
52.5°	531.6	534.5	534.5	537.5	540.5	543.5	546.4	552.4	555.4	561.3	564.3
55°	466.2	466.2	472.2	475.2	475.2	475.2	481.1	481.1	487.1	490.0	496.0
57.5°	403.9	406.9	406.9	409.8	409.8	412.8	415.8	418.8	421.7	424.7	427.7
60°	344.5	344.5	344.5	347.5	350.5	353.4	350.5	356.4	356.4	362.4	365.3
62.5°	288.1	291.1	291.1	291.1	291.1	291.1	291.1	294.0	297.0	300.0	303.0
65°	234.7	234.7	234.7	231.7	234.7	231.7	234.7	237.6	237.6	240.6	243.6
67.5°	181.1	181.1	175.3	175.3	178.1	178.1	178.1	178.1	175.3	181.1	181.1
70°	130.7	127.7	124.7	121.7	121.7	118.8	118.8	115.8	115.8	115.8	115.8
72.5°	86.2	80.2	74.3	71.3	68.3	68.3	62.4	59.4	62.4	62.4	62.4
75°	44.5	38.6	35.6	32.7	29.8	29.8	26.8	26.8	26.8	26.8	26.8
77.5°	17.8	14.9	11.9	11.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
80°	5.9	5.9	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: P584606

CATALOG NUMBER: HC840D010-HM82555930-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9	1986.9
2.5°	1948.3	1948.3	1945.4	1948.3	1942.4	1945.4	1942.4	1942.4
5°	1903.8	1897.8	1897.8	1897.8	1894.8	1894.8	1891.9	1891.9
7.5°	1850.3	1847.4	1844.4	1841.4	1838.4	1835.5	1835.5	1835.5
10°	1796.9	1791.0	1791.0	1788.0	1782.0	1779.0	1779.0	1779.0
12.5°	1734.4	1731.6	1728.6	1728.6	1716.7	1719.7	1716.7	1716.7
15°	1675.0	1672.1	1672.1	1663.3	1657.3	1657.3	1657.3	1654.3
17.5°	1612.7	1609.7	1606.7	1600.8	1594.8	1594.8	1592.0	1594.8
20°	1547.4	1544.4	1538.4	1538.4	1535.5	1532.5	1526.5	1529.5
22.5°	1482.0	1476.1	1473.1	1473.1	1470.1	1470.1	1464.2	1464.2
25°	1413.7	1410.7	1407.8	1410.7	1404.8	1404.8	1398.8	1398.8
27.5°	1342.4	1339.5	1339.5	1339.5	1336.5	1339.5	1336.5	1336.5
30°	1271.2	1271.2	1268.2	1268.2	1271.2	1268.2	1271.2	1274.1
32.5°	1193.9	1193.9	1196.9	1196.9	1199.9	1199.9	1199.9	1199.9
35°	1113.7	1119.7	1119.7	1122.6	1125.6	1128.6	1128.6	1131.6
37.5°	1039.5	1042.4	1045.4	1048.4	1054.3	1054.3	1054.3	1054.3
40°	959.3	962.2	968.2	965.2	977.1	980.1	977.1	977.1
42.5°	876.2	882.1	885.0	891.0	893.9	899.9	902.9	902.9
45°	799.0	801.9	807.9	813.8	816.7	825.6	825.6	825.6
47.5°	718.8	724.7	727.7	733.6	736.6	745.4	748.4	745.4
50°	641.5	647.5	653.4	653.4	662.4	665.3	671.3	674.1
52.5°	567.3	570.2	576.2	579.2	585.1	591.1	594.0	597.0
55°	496.0	499.0	504.9	504.9	513.8	516.8	522.8	522.8
57.5°	430.7	433.6	439.6	436.6	442.6	448.5	448.5	445.5
60°	368.3	368.3	368.3	374.3	377.2	380.2	383.2	383.2
62.5°	303.0	308.9	311.9	311.9	314.9	317.8	317.8	314.9
65°	243.6	249.4	252.4	252.4	255.4	255.4	255.4	258.3
67.5°	184.1	184.1	184.1	187.1	184.1	184.1	184.1	184.1
70°	115.8	115.8	115.8	115.8	112.8	115.8	115.8	118.8
72.5°	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4
75°	26.8	26.8	26.8	29.8	26.8	26.8	26.8	26.8
77.5°	11.9	8.9	11.9	11.9	8.9	8.9	8.9	8.9
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)