

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: P584555

Luminaire Tested: **HC840D010-HM82555835-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584555
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-HM82555835-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3990.1 lumens
Efficiency: N/A
Efficacy: 97.3 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

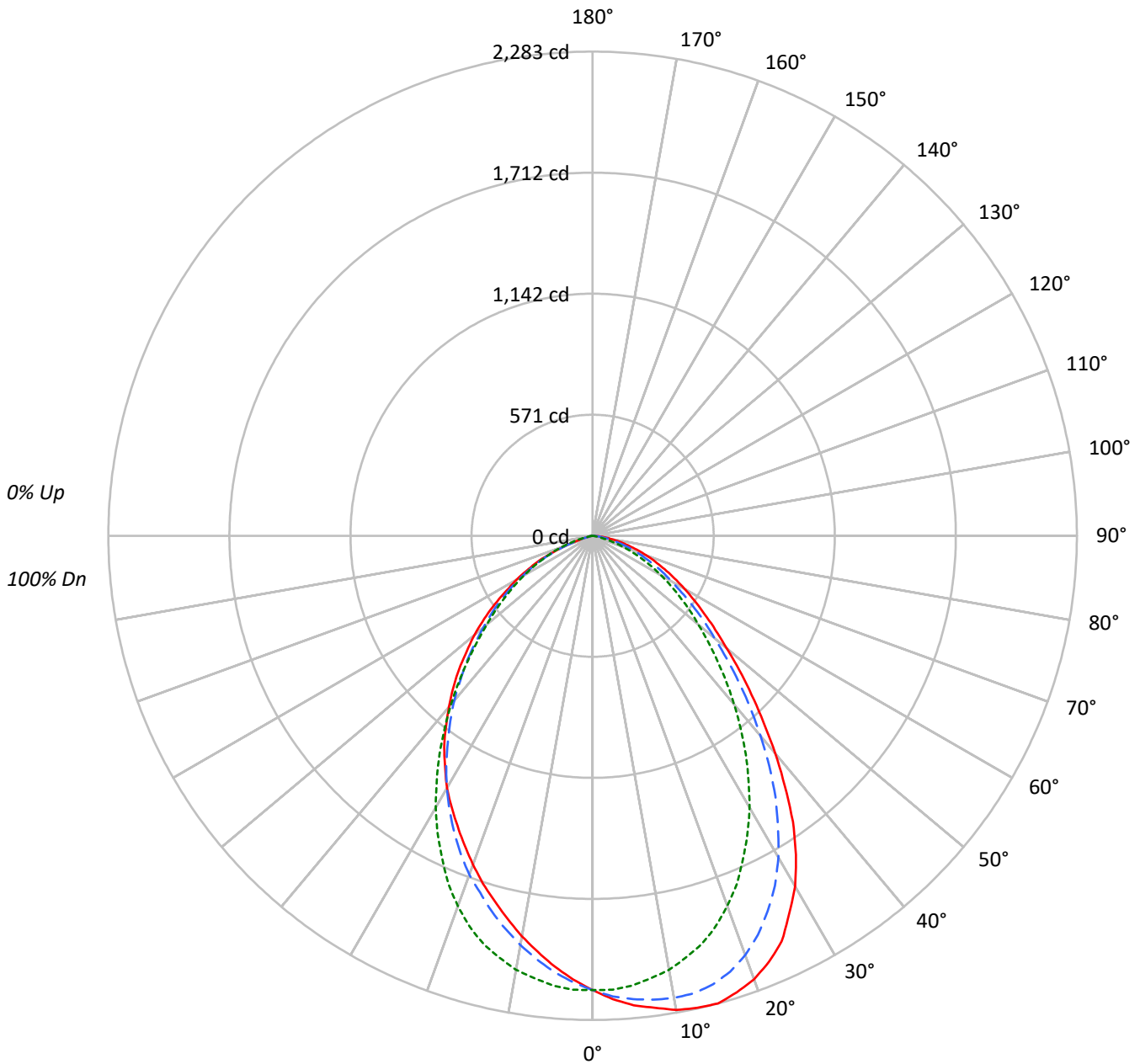
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	66054	66054	66054
5°	68786	65911	63137
10°	71085	65069	60053
15°	72883	63580	56937
20°	73024	60941	54112
25°	71794	57086	51312
30°	67952	52673	48909
35°	61955	47371	45926
40°	53876	41759	42404
45°	46217	36165	38816
50°	39477	31182	34871
55°	34601	26859	30300
60°	30812	22905	25471
65°	27333	18694	20328
70°	24244	13857	11540
75°	20218	7244	3431
80°	15911	2291	568
85°	11322	1132	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.8	5.1
10°-20°	565.7	14.2
20°-30°	800.7	20.1
30°-40°	837.7	21.0
40°-50°	698.7	17.5
50°-60°	495.5	12.4
60°-70°	285.4	7.2
70°-80°	91.8	2.3
80°-90°	12.6	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°	1568.3	39.3
0°-40°	2406.0	60.3
0°-60°	3600.2	90.2
0°-90°	3990.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3990.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2142	2142	2142	2142	2142	
5°	2222	2193	2129	2065	2040	213
15°	2283	2190	1992	1835	1784	642
25°	2110	1953	1678	1543	1508	963
35°	1646	1502	1258	1191	1220	1020
45°	1060	973	829	839	890	821
55°	644	576	500	525	564	581
65°	375	314	256	256	279	374
75°	170	125	61	29	29	184
85°	32	16	3	0	0	40
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°	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1
2.5°	2187.0	2183.8	2180.6	2183.8	2180.6	2183.8	2180.6	2180.6	2177.3	2174.1	2174.1
5°	2222.2	2219.0	2219.0	2219.0	2215.8	2212.6	2212.6	2209.4	2202.9	2199.7	2193.3
7.5°	2244.6	2247.8	2247.8	2247.8	2241.4	2241.4	2234.9	2228.5	2222.2	2215.8	2206.1
10°	2270.2	2270.2	2267.0	2263.7	2257.4	2254.2	2251.0	2244.6	2234.9	2222.2	2212.6
12.5°	2279.8	2279.8	2276.6	2270.2	2267.0	2263.7	2260.5	2251.0	2238.2	2222.2	2209.4
15°	2283.0	2276.6	2273.4	2270.2	2263.7	2254.2	2254.2	2241.4	2225.3	2206.1	2190.2
17.5°	2257.4	2260.5	2254.2	2247.8	2238.2	2231.7	2222.2	2212.6	2193.3	2170.9	2155.0
20°	2225.3	2222.2	2219.0	2209.4	2196.5	2193.3	2183.8	2167.7	2151.8	2126.1	2103.7
22.5°	2174.1	2170.9	2164.5	2158.1	2145.3	2138.9	2129.3	2110.1	2087.6	2062.0	2036.4
25°	2110.1	2103.7	2094.0	2081.3	2071.7	2065.2	2052.5	2033.2	2007.6	1978.9	1953.1
27.5°	2007.6	2017.3	2010.9	1991.6	1982.1	1969.2	1966.0	1940.4	1917.9	1889.1	1860.3
30°	1908.4	1908.4	1898.8	1889.1	1873.2	1863.5	1850.7	1831.5	1809.2	1773.9	1751.4
32.5°	1783.5	1780.2	1767.5	1764.3	1751.4	1732.3	1729.1	1703.5	1681.0	1655.4	1626.6
35°	1645.8	1639.3	1626.6	1617.0	1610.5	1601.0	1591.4	1569.0	1546.5	1520.9	1501.7
37.5°	1488.9	1488.9	1485.7	1469.6	1463.3	1456.9	1447.3	1424.9	1412.1	1386.5	1367.2
40°	1338.4	1335.2	1325.7	1322.4	1316.0	1306.4	1300.0	1287.2	1267.9	1248.8	1229.5
42.5°	1191.1	1194.3	1181.6	1184.8	1171.9	1165.5	1162.3	1143.1	1133.5	1114.3	1098.3
45°	1059.8	1056.6	1050.3	1047.1	1040.7	1034.2	1027.8	1018.2	1002.2	983.1	973.4
47.5°	938.2	928.6	928.6	925.3	922.1	909.4	906.2	896.5	886.9	867.7	854.9
50°	822.9	822.9	822.9	819.7	810.2	806.9	800.5	790.9	781.2	768.5	749.2
52.5°	730.1	730.1	730.1	726.9	714.0	710.8	707.6	694.8	682.0	672.5	659.6
55°	643.6	646.8	643.6	637.2	627.6	627.6	618.0	611.5	598.8	589.2	576.3
57.5°	569.9	569.9	563.6	560.4	553.9	550.7	544.3	537.9	521.9	512.3	496.3
60°	499.6	496.3	496.3	489.9	483.5	477.1	473.9	464.3	457.9	441.8	429.1
62.5°	435.4	435.4	429.1	429.1	416.3	416.3	413.0	403.4	393.9	377.8	371.4
65°	374.6	374.6	371.4	368.2	358.7	355.5	352.2	342.6	333.0	323.4	313.8
67.5°	320.2	320.2	313.8	310.6	304.2	301.0	294.5	288.2	278.6	268.9	259.3
70°	268.9	265.7	262.5	259.3	253.0	249.8	243.4	236.9	227.3	221.0	211.3
72.5°	217.8	217.8	214.6	208.1	204.9	201.7	198.5	192.1	182.5	172.9	166.5
75°	169.7	169.7	169.7	163.3	156.8	153.7	153.7	147.3	140.9	131.3	124.8
77.5°	131.3	128.0	124.8	124.8	118.5	115.3	112.1	108.9	99.2	96.0	89.6
80°	89.6	92.8	89.6	86.4	83.3	80.1	80.1	73.7	70.4	64.0	57.6
82.5°	60.8	57.6	57.6	54.4	54.4	51.3	51.3	44.9	41.6	38.4	35.2
85°	32.0	32.0	28.8	28.8	28.8	25.6	25.6	22.4	22.4	19.2	16.1
87.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	6.4	6.4	6.4
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°	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1
2.5°	2170.9	2164.5	2161.3	2161.3	2158.1	2155.0	2151.8	2148.5	2142.1	2142.1	2135.7
5°	2187.0	2180.6	2177.3	2167.7	2161.3	2161.3	2148.5	2145.3	2135.7	2129.3	2122.8
7.5°	2199.7	2187.0	2177.3	2167.7	2161.3	2155.0	2142.1	2129.3	2116.5	2103.7	2097.3
10°	2199.7	2187.0	2170.9	2155.0	2148.5	2142.1	2126.1	2106.9	2090.8	2078.1	2062.0
12.5°	2193.3	2174.1	2155.0	2142.1	2129.3	2119.7	2100.5	2081.3	2062.0	2036.4	2023.6
15°	2174.1	2148.5	2129.3	2106.9	2097.3	2081.3	2065.2	2036.4	2014.1	1991.6	1975.6
17.5°	2135.7	2103.7	2081.3	2058.8	2042.9	2033.2	2007.6	1982.1	1956.4	1930.8	1911.6
20°	2078.1	2049.3	2023.6	1994.8	1982.1	1969.2	1937.2	1911.6	1885.9	1857.1	1838.0
22.5°	2007.6	1978.9	1943.6	1921.1	1902.0	1885.9	1857.1	1828.3	1802.7	1777.0	1751.4
25°	1921.1	1892.3	1860.3	1825.1	1812.3	1796.3	1764.3	1735.5	1706.7	1677.8	1655.4
27.5°	1828.3	1789.9	1764.3	1725.9	1713.0	1697.1	1661.8	1629.8	1604.2	1581.7	1556.2
30°	1716.2	1687.4	1652.2	1617.0	1604.2	1588.2	1559.4	1530.6	1504.9	1479.3	1453.7
32.5°	1594.6	1565.8	1530.6	1504.9	1485.7	1472.9	1444.1	1418.5	1392.9	1367.2	1344.8
35°	1466.4	1434.4	1408.8	1383.3	1367.2	1351.2	1322.4	1300.0	1280.8	1258.4	1235.9
37.5°	1335.2	1312.8	1287.2	1258.4	1242.4	1229.5	1207.1	1181.6	1165.5	1146.3	1130.3
40°	1207.1	1181.6	1159.1	1133.5	1120.7	1111.1	1088.6	1069.5	1053.4	1037.4	1027.8
42.5°	1075.9	1053.4	1031.0	1015.1	1005.4	995.8	979.8	957.4	947.8	931.8	922.1
45°	954.1	935.0	918.9	896.5	890.1	883.7	864.5	848.5	839.0	829.3	822.9
47.5°	839.0	826.1	806.9	794.1	784.4	778.0	765.3	752.4	742.8	736.5	730.1
50°	739.7	723.6	710.8	698.1	691.6	682.0	669.3	662.8	656.4	650.0	650.0
52.5°	646.8	630.8	618.0	608.3	602.0	595.6	586.0	582.7	576.3	576.3	573.1
55°	560.4	550.7	537.9	525.1	521.9	518.7	512.3	505.9	502.7	499.6	502.7
57.5°	486.7	477.1	464.3	454.7	451.5	448.3	445.1	438.6	435.4	435.4	435.4
60°	419.5	409.8	400.2	390.7	390.7	384.3	381.0	377.8	374.6	371.4	371.4
62.5°	358.7	349.0	339.4	333.0	329.7	326.7	320.2	317.0	313.8	313.8	310.6
65°	304.2	291.4	288.2	278.6	275.4	272.2	268.9	262.5	259.3	256.2	253.0
67.5°	249.8	243.4	233.7	227.3	224.2	221.0	217.8	211.3	208.1	204.9	198.5
70°	201.7	195.3	189.0	182.5	179.3	176.1	169.7	163.3	160.1	153.7	144.1
72.5°	156.8	150.5	144.1	137.7	134.5	131.3	124.8	118.5	112.1	105.7	99.2
75°	118.5	112.1	102.5	96.0	92.8	92.8	83.3	76.9	70.4	60.8	54.4
77.5°	83.3	73.7	70.4	64.0	60.8	54.4	48.1	41.6	35.2	32.0	25.6
80°	54.4	48.1	41.6	38.4	35.2	32.0	28.8	22.4	16.1	12.9	9.6
82.5°	32.0	28.8	25.6	22.4	19.2	16.1	12.9	12.9	9.6	6.4	3.2
85°	16.1	12.9	9.6	9.6	6.4	6.4	6.4	3.2	3.2	3.2	3.2
87.5°	6.4	3.2	3.2	3.2	3.2	3.2	3.2	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°	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1
2.5°	2132.5	2129.3	2126.1	2122.8	2122.8	2116.5	2116.5	2113.3	2106.9	2103.7	2103.7
5°	2113.3	2103.7	2097.3	2094.0	2090.8	2081.3	2078.1	2071.7	2065.2	2058.8	2055.6
7.5°	2084.5	2068.5	2062.0	2058.8	2049.3	2039.7	2033.2	2023.6	2014.1	2004.4	2001.2
10°	2049.3	2033.2	2017.3	2010.9	2001.2	1994.8	1982.1	1969.2	1959.6	1949.9	1940.4
12.5°	2004.4	1985.2	1969.2	1962.8	1953.1	1940.4	1921.1	1914.7	1898.8	1892.3	1879.6
15°	1953.1	1930.8	1914.7	1905.2	1895.6	1876.4	1863.5	1850.7	1834.7	1828.3	1815.5
17.5°	1889.1	1863.5	1847.5	1838.0	1831.5	1815.5	1796.3	1780.2	1764.3	1757.9	1748.2
20°	1812.3	1796.3	1773.9	1764.3	1757.9	1738.7	1719.4	1713.0	1700.3	1687.4	1677.8
22.5°	1725.9	1709.8	1687.4	1677.8	1674.6	1658.6	1642.6	1633.0	1623.4	1613.8	1604.2
25°	1636.2	1617.0	1597.8	1591.4	1585.0	1572.1	1559.4	1552.9	1543.3	1536.9	1530.6
27.5°	1540.1	1520.9	1504.9	1495.4	1488.9	1479.3	1472.9	1466.4	1460.1	1453.7	1450.5
30°	1437.6	1418.5	1405.6	1399.2	1392.9	1389.7	1380.0	1376.8	1373.6	1367.2	1370.4
32.5°	1335.2	1319.2	1306.4	1296.7	1296.7	1290.4	1287.2	1287.2	1284.0	1284.0	1284.0
35°	1223.2	1213.6	1203.9	1200.7	1197.5	1194.3	1191.1	1194.3	1191.1	1194.3	1197.5
37.5°	1120.7	1111.1	1104.7	1101.5	1098.3	1101.5	1098.3	1098.3	1101.5	1107.9	1111.1
40°	1015.1	1008.6	1002.2	1005.4	1002.2	1002.2	1002.2	1011.9	1015.1	1018.2	1021.4
42.5°	915.7	909.4	906.2	906.2	909.4	906.2	912.6	915.7	922.1	931.8	938.2
45°	819.7	816.5	816.5	819.7	816.5	822.9	822.9	829.3	839.0	845.3	851.7
47.5°	730.1	730.1	730.1	733.3	733.3	736.5	742.8	746.0	752.4	758.9	765.3
50°	646.8	650.0	653.2	653.2	653.2	659.6	666.0	669.3	672.5	675.6	685.2
52.5°	573.1	576.3	576.3	579.5	582.7	586.0	589.2	595.6	598.8	605.1	608.3
55°	502.7	502.7	509.1	512.3	512.3	512.3	518.7	518.7	525.1	528.4	534.8
57.5°	435.4	438.6	438.6	441.8	441.8	445.1	448.3	451.5	454.7	457.9	461.1
60°	371.4	371.4	371.4	374.6	377.8	381.0	377.8	384.3	384.3	390.7	393.9
62.5°	310.6	313.8	313.8	313.8	313.8	313.8	313.8	317.0	320.2	323.4	326.7
65°	253.0	253.0	253.0	249.8	253.0	249.8	253.0	256.2	256.2	259.3	262.5
67.5°	195.3	195.3	189.0	189.0	192.1	192.1	192.1	192.1	189.0	195.3	195.3
70°	140.9	137.7	134.5	131.3	131.3	128.0	128.0	124.8	124.8	124.8	124.8
72.5°	92.8	86.4	80.1	76.9	73.7	73.7	67.2	64.0	67.2	67.2	67.2
75°	48.1	41.6	38.4	35.2	32.0	32.0	28.8	28.8	28.8	28.8	28.8
77.5°	19.2	16.1	12.9	12.9	9.6	9.6	9.6	9.6	9.6	9.6	9.6
80°	6.4	6.4	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
82.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
85°	3.2	0.0	0.0	3.2	0.0	3.2	3.2	3.2	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: P584555

CATALOG NUMBER: HC840D010-HM82555835-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1	2142.1
2.5°	2100.5	2100.5	2097.3	2100.5	2094.0	2097.3	2094.0	2094.0
5°	2052.5	2046.1	2046.1	2046.1	2042.9	2042.9	2039.7	2039.7
7.5°	1994.8	1991.6	1988.4	1985.2	1982.1	1978.9	1978.9	1978.9
10°	1937.2	1930.8	1930.8	1927.6	1921.1	1917.9	1917.9	1917.9
12.5°	1870.0	1866.8	1863.5	1863.5	1850.7	1853.9	1850.7	1850.7
15°	1805.9	1802.7	1802.7	1793.1	1786.7	1786.7	1786.7	1783.5
17.5°	1738.7	1735.5	1732.3	1725.9	1719.4	1719.4	1716.2	1719.4
20°	1668.3	1665.0	1658.6	1658.6	1655.4	1652.2	1645.8	1649.0
22.5°	1597.8	1591.4	1588.2	1588.2	1585.0	1585.0	1578.5	1578.5
25°	1524.2	1520.9	1517.7	1520.9	1514.5	1514.5	1508.1	1508.1
27.5°	1447.3	1444.1	1444.1	1444.1	1440.9	1444.1	1440.9	1440.9
30°	1370.4	1370.4	1367.2	1367.2	1370.4	1367.2	1370.4	1373.6
32.5°	1287.2	1287.2	1290.4	1290.4	1293.6	1293.6	1293.6	1293.6
35°	1200.7	1207.1	1207.1	1210.3	1213.6	1216.8	1216.8	1220.0
37.5°	1120.7	1123.8	1127.0	1130.3	1136.7	1136.7	1136.7	1136.7
40°	1034.2	1037.4	1043.9	1040.7	1053.4	1056.6	1053.4	1053.4
42.5°	944.6	950.9	954.1	960.6	963.8	970.2	973.4	973.4
45°	861.3	864.5	871.0	877.4	880.5	890.1	890.1	890.1
47.5°	774.9	781.2	784.4	790.9	794.1	803.7	806.9	803.7
50°	691.6	698.1	704.5	704.5	714.0	717.2	723.6	726.9
52.5°	611.5	614.8	621.2	624.4	630.8	637.2	640.3	643.6
55°	534.8	537.9	544.3	544.3	553.9	557.2	563.6	563.6
57.5°	464.3	467.4	473.9	470.6	477.1	483.5	483.5	480.3
60°	397.0	397.0	397.0	403.4	406.6	409.8	413.0	413.0
62.5°	326.7	333.0	336.2	336.2	339.4	342.6	342.6	339.4
65°	262.5	268.9	272.2	272.2	275.4	275.4	275.4	278.6
67.5°	198.5	198.5	198.5	201.7	198.5	198.5	198.5	198.5
70°	124.8	124.8	124.8	124.8	121.6	124.8	124.8	128.0
72.5°	67.2	67.2	67.2	67.2	67.2	67.2	67.2	67.2
75°	28.8	28.8	28.8	32.0	28.8	28.8	28.8	28.8
77.5°	12.9	9.6	12.9	12.9	9.6	9.6	9.6	9.6
80°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
82.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
85°	0.0	3.2	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



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













(END OF REPORT)