

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: P584556

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584556  
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-HM82555835-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4355.2 lumens  
Efficiency: N/A  
Efficacy: 106.2 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

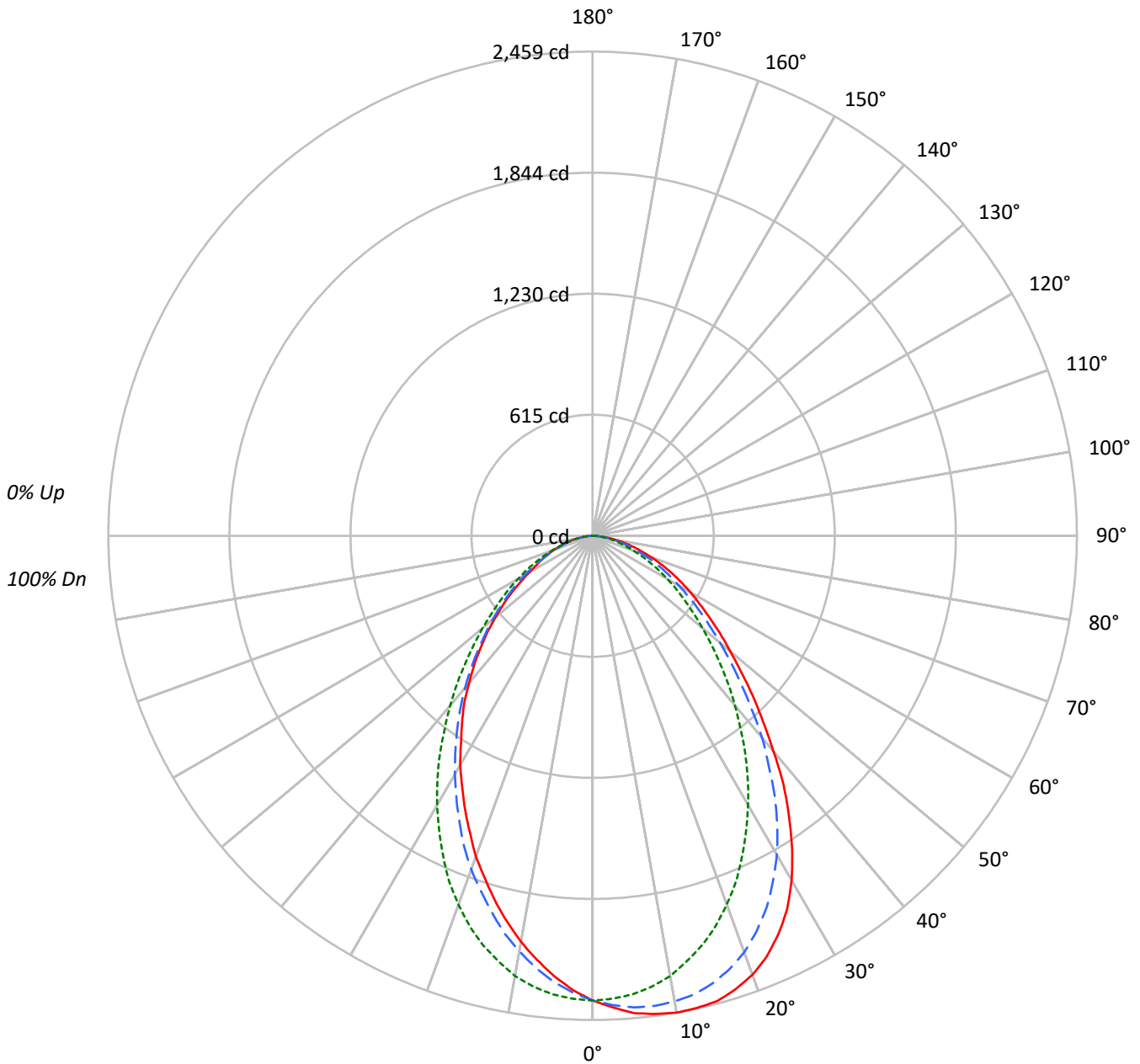
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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			100
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87			87
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76			76
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66			66
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58			58
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51			51
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46			46
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41			41
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38			38
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34			34
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32			32

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

	0°	90°	180°
0°	72768	72768	72768
5°	75324	72352	69480
10°	76999	71085	65567
15°	78096	68688	61227
20°	77858	65355	56846
25°	75932	61118	52183
30°	71940	56205	47884
35°	65448	50865	43509
40°	57487	45237	39312
45°	50129	39793	35049
50°	43626	34871	30875
55°	38902	30639	26848
60°	35345	26852	22905
65°	31769	23363	20795
70°	28292	19925	18762
75°	24794	16787	16025
80°	21043	13656	14224
85°	15886	10190	11322



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	221.0	5.1
10°-20°	609.0	14.0
20°-30°	845.4	19.4
30°-40°	874.0	20.1
40°-50°	731.8	16.8
50°-60°	531.3	12.2
60°-70°	335.3	7.7
70°-80°	166.1	3.8
80°-90°	41.3	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°	1675.4	38.5
0°-40°	2549.4	58.5
0°-60°	3812.5	87.5
0°-90°	4355.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4355.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2360	2360	2360	2360	2360	
5°	2433	2405	2337	2273	2245	233
15°	2446	2354	2152	1979	1918	688
25°	2232	2088	1796	1601	1534	1023
35°	1739	1610	1351	1198	1156	1083
45°	1150	1066	912	823	804	889
55°	724	660	570	522	499	653
65°	435	381	320	282	285	434
75°	208	173	141	134	134	223
85°	45	35	29	32	32	54
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°	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8
2.5°	2398.2	2398.2	2401.4	2398.2	2398.2	2398.2	2395.0	2395.0	2391.9	2391.9	2385.5
5°	2433.4	2427.0	2433.4	2427.0	2427.0	2427.0	2423.9	2417.5	2414.3	2407.8	2404.6
7.5°	2449.5	2446.3	2446.3	2443.1	2443.1	2439.9	2436.6	2433.4	2420.7	2417.5	2407.8
10°	2459.1	2455.9	2455.9	2452.7	2446.3	2446.3	2439.9	2436.6	2420.7	2414.3	2401.4
12.5°	2455.9	2455.9	2455.9	2452.7	2443.1	2439.9	2433.4	2423.9	2411.1	2398.2	2385.5
15°	2446.3	2446.3	2439.9	2436.6	2427.0	2420.7	2417.5	2401.4	2388.7	2372.6	2353.5
17.5°	2414.3	2414.3	2411.1	2404.6	2395.0	2388.7	2382.3	2366.2	2353.5	2327.8	2308.6
20°	2372.6	2369.4	2366.2	2356.7	2347.0	2343.8	2334.2	2311.8	2295.7	2276.6	2251.0
22.5°	2311.8	2308.6	2305.4	2299.0	2283.0	2276.6	2270.2	2254.2	2225.3	2206.1	2174.1
25°	2231.7	2231.7	2225.3	2215.8	2199.7	2193.3	2183.8	2167.7	2142.1	2113.3	2087.6
27.5°	2138.9	2135.7	2126.1	2119.6	2106.9	2097.3	2081.3	2062.0	2036.4	2014.0	1981.9
30°	2020.4	2020.4	2014.0	2004.4	1988.4	1981.9	1969.2	1946.7	1921.1	1892.3	1870.0
32.5°	1885.9	1885.9	1876.3	1870.0	1860.3	1844.3	1841.2	1815.5	1793.1	1770.7	1745.0
35°	1738.6	1741.8	1735.5	1722.6	1706.6	1706.6	1700.3	1677.8	1652.2	1629.8	1610.5
37.5°	1591.4	1581.7	1578.5	1572.1	1562.6	1549.7	1543.3	1533.7	1511.3	1495.4	1466.4
40°	1428.1	1431.2	1424.9	1418.5	1415.3	1405.6	1402.4	1386.5	1370.4	1351.2	1338.4
42.5°	1280.8	1280.8	1280.8	1274.4	1267.9	1258.3	1255.2	1245.6	1226.3	1213.6	1194.3
45°	1149.5	1139.9	1139.9	1136.7	1133.5	1127.0	1117.5	1111.1	1098.3	1088.6	1066.2
47.5°	1021.4	1024.6	1021.4	1018.2	1008.6	1005.4	1002.2	989.4	976.6	967.0	950.9
50°	909.4	915.7	909.4	909.4	903.0	899.8	893.3	883.7	874.2	858.1	842.2
52.5°	816.5	816.5	813.2	810.0	800.5	794.1	790.9	787.7	771.7	758.9	746.0
55°	723.6	726.9	726.9	717.2	714.0	707.6	704.5	694.8	688.4	669.3	659.6
57.5°	643.6	640.3	643.6	637.1	630.8	624.4	621.2	614.8	605.1	592.4	579.5
60°	573.1	566.8	566.8	563.6	557.2	553.9	547.5	537.9	528.4	515.5	505.9
62.5°	502.7	499.4	496.3	493.1	486.7	483.5	480.3	470.6	461.1	451.5	441.8
65°	435.4	435.4	432.2	425.9	422.7	419.5	416.3	409.8	397.0	390.7	381.0
67.5°	374.6	371.4	371.4	365.0	358.7	355.5	355.5	349.0	339.4	329.7	323.4
70°	313.8	317.0	313.8	310.6	304.2	304.2	297.7	294.5	281.8	278.6	268.9
72.5°	259.3	259.3	256.2	256.2	249.8	246.6	246.6	240.1	233.7	227.3	221.0
75°	208.1	208.1	208.1	204.9	201.7	195.3	195.3	192.1	185.8	179.3	172.9
77.5°	163.3	160.1	160.1	156.8	153.7	150.5	150.5	147.3	140.9	137.7	131.3
80°	118.5	115.3	115.3	115.3	108.9	112.1	108.9	105.7	102.5	99.2	96.0
82.5°	76.9	80.1	80.1	76.9	73.7	73.7	73.7	70.4	70.4	67.2	64.0
85°	44.9	44.9	44.9	44.9	41.6	41.6	41.6	38.4	38.4	38.4	35.2
87.5°	19.2	19.2	19.2	19.2	19.2	19.2	16.1	16.1	16.1	16.1	16.1
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°	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8
2.5°	2385.5	2379.0	2375.8	2372.6	2372.6	2369.4	2366.2	2359.8	2359.8	2353.5	2350.2
5°	2398.2	2388.7	2382.3	2375.8	2372.6	2366.2	2359.8	2350.2	2347.0	2337.4	2327.8
7.5°	2401.4	2385.5	2379.0	2366.2	2359.8	2353.5	2340.6	2331.0	2318.2	2308.6	2295.7
10°	2388.7	2375.8	2359.8	2343.8	2340.6	2331.0	2311.8	2299.0	2283.0	2270.2	2251.0
12.5°	2369.4	2350.2	2334.2	2315.0	2305.4	2295.7	2276.6	2257.3	2234.9	2212.6	2193.3
15°	2337.4	2315.0	2292.5	2270.2	2257.3	2247.8	2225.3	2202.9	2180.6	2151.6	2132.5
17.5°	2289.3	2263.7	2241.4	2212.6	2199.7	2190.1	2161.3	2135.7	2106.9	2078.1	2058.8
20°	2228.5	2196.5	2170.9	2138.9	2129.3	2113.3	2084.4	2055.6	2023.6	1991.6	1969.2
22.5°	2148.5	2116.5	2087.6	2055.6	2039.7	2023.6	1994.8	1959.6	1927.6	1902.0	1879.5
25°	2055.6	2026.8	1991.6	1962.8	1943.6	1924.3	1892.3	1863.5	1834.7	1796.3	1773.8
27.5°	1953.1	1917.9	1892.3	1853.9	1834.7	1821.9	1786.7	1748.2	1722.6	1687.4	1661.8
30°	1838.0	1805.9	1777.0	1738.6	1719.4	1706.6	1674.6	1639.3	1613.8	1578.5	1552.9
32.5°	1716.2	1681.0	1645.8	1620.2	1597.8	1585.0	1549.7	1527.4	1495.4	1466.4	1437.6
35°	1585.0	1549.7	1524.2	1488.9	1476.1	1463.2	1434.4	1405.6	1376.8	1351.2	1328.8
37.5°	1444.1	1418.5	1389.7	1364.0	1354.5	1341.6	1306.4	1280.8	1258.3	1232.7	1213.6
40°	1306.4	1284.0	1264.7	1239.1	1223.1	1213.6	1187.9	1165.5	1139.9	1123.8	1104.7
42.5°	1181.6	1155.8	1136.7	1117.5	1101.5	1091.8	1069.5	1053.4	1034.2	1018.2	995.8
45°	1050.2	1037.4	1015.1	999.0	989.4	976.6	960.6	941.4	925.3	912.5	896.5
47.5°	935.0	922.1	906.2	886.9	880.5	871.0	854.9	842.2	829.3	816.5	800.5
50°	829.3	813.2	800.5	787.7	781.2	771.7	755.6	749.2	739.7	726.9	717.2
52.5°	733.3	720.4	707.6	691.6	688.4	682.0	672.4	659.6	650.0	643.6	637.1
55°	646.8	634.0	624.4	611.5	608.3	602.0	589.2	582.7	576.3	569.9	563.6
57.5°	569.9	557.2	544.3	537.9	531.6	525.1	521.9	512.3	505.9	502.7	496.3
60°	499.4	486.7	477.1	467.4	464.3	461.1	454.7	448.3	441.8	435.4	432.2
62.5°	432.2	419.5	413.0	406.6	400.2	400.2	393.9	387.5	381.0	377.8	371.4
65°	371.4	365.0	355.5	345.8	342.6	342.6	333.0	329.7	326.7	320.2	313.8
67.5°	313.8	307.4	297.7	294.5	291.4	288.2	285.0	278.6	272.2	268.9	262.5
70°	262.5	256.2	249.8	246.6	243.4	240.1	233.7	230.5	224.1	221.0	217.8
72.5°	211.3	208.1	201.7	198.5	195.3	192.1	189.0	185.8	179.3	176.1	172.9
75°	169.7	166.5	160.1	156.8	153.7	153.7	150.5	144.1	140.9	140.9	137.7
77.5°	128.0	124.8	121.6	118.5	115.3	115.3	112.1	108.9	105.7	105.7	102.5
80°	92.8	89.6	86.4	86.4	86.4	83.3	80.1	80.1	76.9	76.9	73.7
82.5°	60.8	60.8	57.6	57.6	57.6	54.4	54.4	51.3	51.3	51.3	51.3
85°	35.2	35.2	35.2	32.0	32.0	32.0	32.0	32.0	32.0	28.8	32.0
87.5°	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	12.9	12.9	12.9
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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8
2.5°	2347.0	2343.8	2337.4	2337.4	2331.0	2331.0	2327.8	2324.5	2321.5	2318.2	2315.0
5°	2324.5	2311.8	2305.4	2302.2	2295.7	2292.5	2283.0	2276.6	2273.4	2267.0	2260.5
7.5°	2283.0	2270.2	2257.3	2254.2	2251.0	2238.2	2228.5	2219.0	2212.6	2206.1	2199.7
10°	2234.9	2222.1	2206.1	2199.7	2193.3	2177.3	2164.5	2154.9	2142.1	2129.3	2126.1
12.5°	2177.3	2158.1	2138.9	2132.5	2122.8	2106.9	2094.0	2078.1	2068.5	2052.4	2049.2
15°	2110.1	2087.6	2071.7	2055.6	2049.2	2033.2	2010.9	1998.0	1978.9	1972.4	1956.4
17.5°	2030.0	2007.6	1985.2	1978.9	1969.2	1946.7	1924.3	1908.4	1889.1	1879.5	1870.0
20°	1946.7	1917.9	1895.6	1889.1	1876.3	1857.1	1834.7	1818.7	1802.7	1783.5	1773.8
22.5°	1850.7	1818.7	1799.5	1783.5	1780.2	1757.9	1732.3	1719.4	1706.6	1690.6	1677.8
25°	1745.0	1716.2	1693.8	1681.0	1674.6	1655.4	1636.1	1620.2	1600.9	1591.4	1575.3
27.5°	1636.1	1617.0	1588.2	1575.3	1565.8	1549.7	1527.4	1517.7	1498.4	1485.7	1476.1
30°	1530.6	1501.7	1485.7	1469.6	1460.1	1444.1	1424.9	1415.3	1399.2	1386.5	1376.8
32.5°	1415.3	1396.0	1373.6	1367.2	1354.5	1338.4	1325.5	1309.6	1296.7	1284.0	1280.8
35°	1309.6	1284.0	1261.5	1255.2	1245.6	1229.5	1223.1	1213.6	1197.5	1194.3	1181.6
37.5°	1194.3	1181.6	1155.8	1146.3	1143.1	1130.3	1117.5	1111.1	1101.5	1091.8	1088.6
40°	1085.4	1069.5	1056.6	1047.1	1040.7	1031.0	1018.2	1015.1	1008.6	995.8	992.6
42.5°	982.9	967.0	954.1	950.9	941.4	931.8	925.3	915.7	912.5	909.4	903.0
45°	883.7	874.2	861.3	858.1	854.9	842.2	835.7	829.3	822.9	819.7	813.2
47.5°	794.1	784.4	774.8	771.7	765.3	762.1	752.4	749.2	739.7	736.5	733.3
50°	707.6	701.3	694.8	691.6	685.2	682.0	675.6	669.3	662.8	659.6	656.4
52.5°	630.8	624.4	618.0	614.8	611.5	605.1	598.8	592.4	589.2	586.0	582.7
55°	557.2	550.7	547.5	544.3	541.1	537.9	528.4	525.1	521.9	518.7	512.3
57.5°	489.9	483.5	477.1	477.1	473.9	470.6	464.3	457.9	457.9	451.5	445.1
60°	429.1	422.7	416.3	413.0	409.8	403.4	400.2	397.0	393.9	390.7	384.3
62.5°	365.0	361.8	355.5	355.5	349.0	345.8	342.6	339.4	336.2	329.7	326.7
65°	310.6	307.4	301.0	297.7	297.7	294.5	288.2	285.0	281.8	281.8	278.6
67.5°	259.3	256.2	249.8	246.6	246.6	243.4	240.1	240.1	236.9	233.7	236.9
70°	214.6	208.1	208.1	204.9	204.9	201.7	198.5	198.5	198.5	201.7	201.7
72.5°	169.7	166.5	163.3	163.3	163.3	163.3	160.1	160.1	163.3	166.5	166.5
75°	134.5	131.3	131.3	131.3	128.0	128.0	131.3	131.3	134.5	134.5	134.5
77.5°	99.2	99.2	99.2	99.2	99.2	99.2	102.5	102.5	105.7	105.7	105.7
80°	73.7	73.7	73.7	73.7	73.7	76.9	76.9	76.9	76.9	76.9	80.1
82.5°	51.3	51.3	51.3	51.3	51.3	51.3	51.3	54.4	54.4	54.4	54.4
85°	28.8	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
87.5°	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
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: P584556

CATALOG NUMBER: HC840D010-HM82555835-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8	2359.8
2.5°	2311.8	2311.8	2311.8	2315.0	2308.6	2308.6	2308.6	2308.6
5°	2257.3	2254.2	2251.0	2254.2	2247.8	2247.8	2244.6	2244.6
7.5°	2190.1	2186.9	2183.8	2183.8	2177.3	2177.3	2174.1	2170.9
10°	2116.5	2110.1	2113.3	2106.9	2103.7	2100.5	2097.3	2094.0
12.5°	2036.4	2030.0	2026.8	2020.4	2014.0	2010.9	2014.0	2007.6
15°	1949.9	1940.4	1937.2	1930.8	1924.3	1921.1	1921.1	1917.9
17.5°	1853.9	1847.5	1844.3	1838.0	1834.7	1828.3	1825.1	1821.9
20°	1764.3	1748.2	1751.4	1745.0	1741.8	1729.1	1729.1	1732.3
22.5°	1665.0	1655.4	1649.0	1642.6	1639.3	1633.0	1633.0	1629.8
25°	1565.8	1556.2	1552.9	1546.5	1543.3	1536.9	1533.7	1533.7
27.5°	1469.6	1456.9	1456.9	1450.5	1444.1	1440.9	1437.6	1434.4
30°	1367.2	1357.7	1354.5	1354.5	1351.2	1351.2	1341.6	1344.8
32.5°	1271.2	1264.7	1261.5	1255.2	1255.2	1252.0	1252.0	1242.4
35°	1175.1	1165.5	1168.7	1162.3	1159.1	1155.8	1159.1	1155.8
37.5°	1082.3	1075.9	1075.9	1069.5	1069.5	1066.2	1063.0	1069.5
40°	989.4	986.2	982.9	979.8	982.9	979.8	973.4	976.6
42.5°	896.5	896.5	893.3	893.3	890.1	890.1	890.1	890.1
45°	813.2	810.0	810.0	806.9	806.9	806.9	806.9	803.7
47.5°	730.1	726.9	726.9	726.9	723.6	723.6	720.4	723.6
50°	650.0	650.0	646.8	646.8	650.0	646.8	643.6	643.6
52.5°	576.3	576.3	573.1	573.1	569.9	566.8	569.9	569.9
55°	509.1	505.9	502.7	502.7	499.4	496.3	496.3	499.4
57.5°	445.1	441.8	438.6	438.6	432.2	429.1	429.1	429.1
60°	384.3	377.8	377.8	374.6	374.6	371.4	371.4	371.4
62.5°	326.7	323.4	323.4	323.4	323.4	320.2	320.2	320.2
65°	278.6	278.6	278.6	281.8	281.8	285.0	285.0	285.0
67.5°	240.1	243.4	243.4	243.4	246.6	246.6	246.6	243.4
70°	204.9	204.9	204.9	208.1	208.1	208.1	208.1	208.1
72.5°	169.7	169.7	169.7	169.7	169.7	169.7	169.7	169.7
75°	134.5	137.7	137.7	137.7	134.5	137.7	137.7	134.5
77.5°	105.7	105.7	105.7	105.7	105.7	105.7	105.7	105.7
80°	80.1	80.1	80.1	80.1	80.1	80.1	80.1	80.1
82.5°	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4
85°	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
87.5°	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
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)