

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: P584675

Luminaire Tested: **HC845D010-HM82555830-81WWW**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584675  
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: HC845D010-HM82555830-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4373.6 lumens  
Efficiency: N/A  
Efficacy: 99.4 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

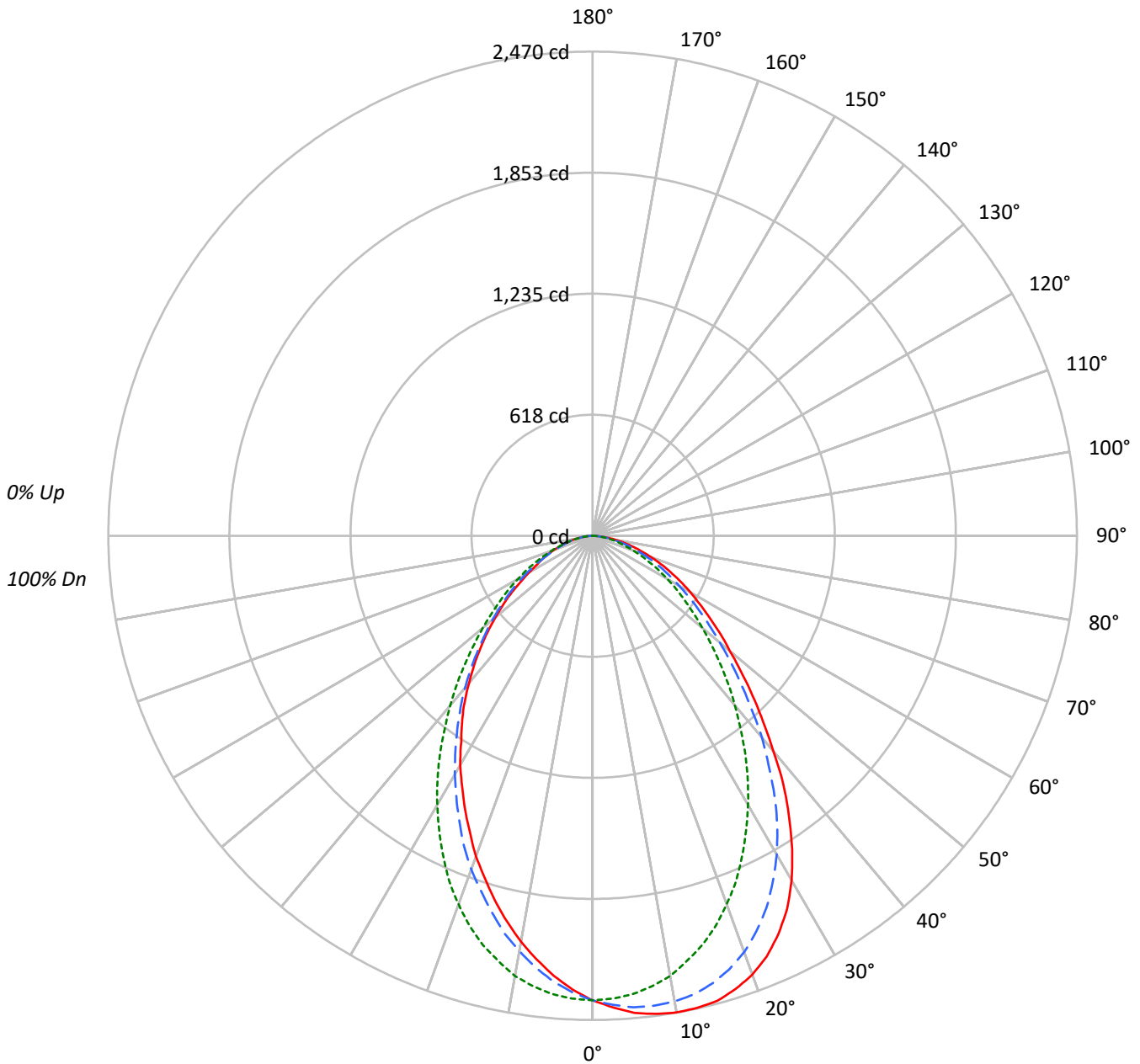
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	90°	180°
0°	73076	73076	73076
5°	75646	72659	69771
10°	77325	71385	65849
15°	78425	68982	61489
20°	78189	65634	57086
25°	76258	61373	52407
30°	72242	56444	48087
35°	65727	51079	43697
40°	57728	45435	39477
45°	50338	39968	35197
50°	43809	35020	31005
55°	39068	30768	26967
60°	35499	26969	23004
65°	31908	23458	20883
70°	28409	19997	18843
75°	24901	16859	16084
80°	21114	13709	14277
85°	15921	10260	11357



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CATALOG NUMBER: HC845D010-HM82555830-81WWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	222.0	5.1
10°-20°	611.6	14.0
20°-30°	848.9	19.4
30°-40°	877.7	20.1
40°-50°	734.9	16.8
50°-60°	533.5	12.2
60°-70°	336.7	7.7
70°-80°	166.8	3.8
80°-90°	41.5	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°	1682.5	38.5
0°-40°	2560.2	58.5
0°-60°	3828.7	87.5
0°-90°	4373.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4373.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2370	2370	2370	2370	2370	
5°	2444	2415	2347	2283	2254	234
15°	2457	2363	2161	1987	1926	691
25°	2241	2096	1804	1608	1540	1027
35°	1746	1617	1357	1203	1161	1087
45°	1154	1071	916	826	807	893
55°	727	662	572	524	502	656
65°	437	383	322	283	286	436
75°	209	174	142	135	135	224
85°	45	35	29	32	32	55
90°	0	0	0	0	0	



TEST NUMBER: P584675

CATALOG NUMBER: HC845D010-HM82555830-81WWW

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8
2.5°	2408.4	2408.4	2411.6	2408.4	2408.4	2408.4	2405.2	2405.2	2402.0	2402.0	2395.5
5°	2443.8	2437.4	2443.8	2437.4	2437.4	2437.4	2434.1	2427.8	2424.5	2418.0	2414.9
7.5°	2459.9	2456.6	2456.6	2453.4	2453.4	2450.2	2447.0	2443.8	2430.9	2427.8	2418.0
10°	2469.5	2466.2	2466.2	2463.1	2456.6	2456.6	2450.2	2447.0	2430.9	2424.5	2411.6
12.5°	2466.2	2466.2	2466.2	2463.1	2453.4	2450.2	2443.8	2434.1	2421.3	2408.4	2395.5
15°	2456.6	2456.6	2450.2	2447.0	2437.4	2430.9	2427.8	2411.6	2398.8	2382.7	2363.4
17.5°	2424.5	2424.5	2421.3	2414.9	2405.2	2398.8	2392.3	2376.3	2363.4	2337.7	2318.3
20°	2382.7	2379.4	2376.3	2366.6	2356.9	2353.7	2344.1	2321.6	2305.5	2286.2	2260.5
22.5°	2321.6	2318.3	2315.2	2308.7	2292.6	2286.2	2279.8	2263.7	2234.8	2215.4	2183.3
25°	2241.3	2241.3	2234.8	2225.2	2209.0	2202.7	2192.9	2176.9	2151.2	2122.2	2096.5
27.5°	2148.0	2144.7	2135.1	2128.6	2115.7	2106.1	2090.1	2070.8	2045.0	2022.6	1990.3
30°	2028.9	2028.9	2022.6	2012.9	1996.8	1990.3	1977.6	1955.0	1929.4	1900.4	1877.9
32.5°	1893.9	1893.9	1884.3	1877.9	1868.2	1852.2	1848.9	1823.2	1800.7	1778.2	1752.5
35°	1746.0	1749.2	1742.8	1729.9	1713.9	1713.9	1707.4	1684.9	1659.2	1636.7	1617.4
37.5°	1598.1	1588.5	1585.2	1578.9	1569.1	1556.3	1549.9	1540.3	1517.7	1501.7	1472.7
40°	1434.1	1437.3	1430.9	1424.5	1421.2	1411.6	1408.4	1392.4	1376.3	1356.9	1344.0
42.5°	1286.2	1286.2	1286.2	1279.7	1273.3	1263.7	1260.5	1250.8	1231.5	1218.6	1199.4
45°	1154.3	1144.7	1144.7	1141.4	1138.3	1131.8	1122.2	1115.8	1103.0	1093.2	1070.7
47.5°	1025.8	1029.0	1025.8	1022.5	1012.9	1009.7	1006.4	993.5	980.7	971.1	955.1
50°	913.2	919.6	913.2	913.2	906.7	903.6	897.1	887.5	877.9	861.8	845.7
52.5°	819.9	819.9	816.8	813.5	803.9	797.4	794.2	791.0	774.9	762.1	749.2
55°	726.7	730.0	730.0	720.2	717.1	710.6	707.4	697.8	691.4	672.0	662.4
57.5°	646.3	643.2	646.3	639.9	633.4	627.0	623.8	617.3	607.7	594.8	582.0
60°	575.6	569.1	569.1	566.0	559.5	556.2	549.9	540.2	530.5	517.6	508.0
62.5°	504.9	501.6	498.4	495.2	488.8	485.5	482.3	472.7	463.0	453.4	443.7
65°	437.3	437.3	434.1	427.7	424.4	421.2	418.1	411.6	398.7	392.3	382.6
67.5°	376.2	373.0	373.0	366.6	360.1	356.9	356.9	350.5	340.9	331.1	324.8
70°	315.1	318.4	315.1	311.9	305.4	305.4	299.0	295.8	282.9	279.8	270.1
72.5°	260.4	260.4	257.2	257.2	250.8	247.6	247.6	241.2	234.7	228.3	221.8
75°	209.0	209.0	209.0	205.7	202.6	196.1	196.1	193.0	186.5	180.1	173.6
77.5°	164.0	160.8	160.8	157.5	154.4	151.1	151.1	147.9	141.5	138.3	131.8
80°	118.9	115.8	115.8	115.8	109.3	112.5	109.3	106.2	102.9	99.7	96.4
82.5°	77.2	80.4	80.4	77.2	73.9	73.9	73.9	70.7	70.7	67.6	64.3
85°	45.0	45.0	45.0	45.0	41.8	41.8	41.8	38.6	38.6	38.6	35.4
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



TEST NUMBER: P584675

CATALOG NUMBER: HC845D010-HM82555830-81WWW

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8
2.5°	2395.5	2389.2	2385.9	2382.7	2382.7	2379.4	2376.3	2369.8	2369.8	2363.4	2360.2
5°	2408.4	2398.8	2392.3	2385.9	2382.7	2376.3	2369.8	2360.2	2356.9	2347.3	2337.7
7.5°	2411.6	2395.5	2389.2	2376.3	2369.8	2363.4	2350.6	2340.8	2328.1	2318.3	2305.5
10°	2398.8	2385.9	2369.8	2353.7	2350.6	2340.8	2321.6	2308.7	2292.6	2279.8	2260.5
12.5°	2379.4	2360.2	2344.1	2324.8	2315.2	2305.5	2286.2	2266.9	2244.4	2221.9	2202.7
15°	2347.3	2324.8	2302.2	2279.8	2266.9	2257.3	2234.8	2212.3	2189.8	2160.8	2141.5
17.5°	2299.1	2273.4	2250.9	2221.9	2209.0	2199.4	2170.4	2144.7	2115.7	2086.9	2067.5
20°	2238.0	2205.8	2180.1	2148.0	2138.3	2122.2	2093.3	2064.4	2032.2	2000.1	1977.6
22.5°	2157.6	2125.5	2096.5	2064.4	2048.3	2032.2	2003.2	1967.9	1935.7	1910.0	1887.5
25°	2064.4	2035.4	2000.1	1971.1	1951.8	1932.5	1900.4	1871.4	1842.4	1803.8	1781.4
27.5°	1961.5	1926.1	1900.4	1861.8	1842.4	1829.6	1794.2	1755.6	1729.9	1694.5	1668.8
30°	1845.7	1813.6	1784.6	1746.0	1726.8	1713.9	1681.7	1646.3	1620.6	1585.2	1559.5
32.5°	1723.5	1688.2	1652.8	1627.1	1604.5	1591.6	1556.3	1533.8	1501.7	1472.7	1443.7
35°	1591.6	1556.3	1530.5	1495.2	1482.3	1469.5	1440.6	1411.6	1382.6	1356.9	1334.4
37.5°	1450.2	1424.5	1395.5	1369.8	1360.2	1347.3	1311.9	1286.2	1263.7	1238.0	1218.6
40°	1311.9	1289.4	1270.1	1244.4	1228.4	1218.6	1192.9	1170.4	1144.7	1128.7	1109.3
42.5°	1186.5	1160.8	1141.4	1122.2	1106.1	1096.5	1074.0	1057.9	1038.6	1022.5	1000.0
45°	1054.6	1041.9	1019.3	1003.3	993.5	980.7	964.7	945.3	929.3	916.5	900.4
47.5°	938.9	926.1	910.0	890.7	884.2	874.6	858.5	845.7	832.8	819.9	803.9
50°	832.8	816.8	803.9	791.0	784.6	774.9	758.8	752.5	742.7	730.0	720.2
52.5°	736.3	723.5	710.6	694.5	691.4	684.9	675.3	662.4	652.8	646.3	639.9
55°	649.5	636.7	627.0	614.2	610.9	604.6	591.7	585.2	578.8	572.3	566.0
57.5°	572.3	559.5	546.6	540.2	533.7	527.4	524.1	514.5	508.0	504.9	498.4
60°	501.6	488.8	479.1	469.4	466.3	463.0	456.6	450.2	443.7	437.3	434.1
62.5°	434.1	421.2	414.8	408.3	402.0	402.0	395.5	389.1	382.6	379.5	373.0
65°	373.0	366.6	356.9	347.3	344.0	344.0	334.4	331.1	328.0	321.5	315.1
67.5°	315.1	308.7	299.0	295.8	292.7	289.4	286.2	279.8	273.3	270.1	263.7
70°	263.7	257.2	250.8	247.6	244.3	241.2	234.7	231.6	225.1	221.8	218.6
72.5°	212.2	209.0	202.6	199.4	196.1	193.0	189.7	186.5	180.1	176.9	173.6
75°	170.4	167.2	160.8	157.5	154.4	154.4	151.1	144.7	141.5	141.5	138.3
77.5°	128.7	125.4	122.2	118.9	115.8	115.8	112.5	109.3	106.2	106.2	102.9
80°	93.3	90.1	86.8	86.8	86.8	83.6	80.4	80.4	77.2	77.2	73.9
82.5°	61.1	61.1	57.8	57.8	57.8	54.7	54.7	51.5	51.5	51.5	51.5
85°	35.4	35.4	35.4	32.1	32.1	32.1	32.1	32.1	32.1	29.0	32.1
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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CATALOG NUMBER: HC845D010-HM82555830-81WWW

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8
2.5°	2356.9	2353.7	2347.3	2347.3	2340.8	2340.8	2337.7	2334.5	2331.2	2328.1	2324.8
5°	2334.5	2321.6	2315.2	2312.0	2305.5	2302.2	2292.6	2286.2	2283.0	2276.6	2270.1
7.5°	2292.6	2279.8	2266.9	2263.7	2260.5	2247.6	2238.0	2228.3	2221.9	2215.4	2209.0
10°	2244.4	2231.5	2215.4	2209.0	2202.7	2186.6	2173.7	2164.1	2151.2	2138.3	2135.1
12.5°	2186.6	2167.2	2148.0	2141.5	2131.9	2115.7	2103.0	2086.9	2077.3	2061.1	2057.9
15°	2119.0	2096.5	2080.4	2064.4	2057.9	2041.8	2019.3	2006.4	1987.2	1980.7	1964.7
17.5°	2038.7	2016.2	1993.6	1987.2	1977.6	1955.0	1932.5	1916.4	1897.1	1887.5	1877.9
20°	1955.0	1926.1	1903.5	1897.1	1884.3	1865.0	1842.4	1826.4	1810.3	1791.1	1781.4
22.5°	1858.5	1826.4	1807.1	1791.1	1787.8	1765.4	1739.6	1726.8	1713.9	1697.8	1684.9
25°	1752.5	1723.5	1701.0	1688.2	1681.7	1662.4	1643.1	1627.1	1607.7	1598.1	1582.0
27.5°	1643.1	1623.8	1594.9	1582.0	1572.4	1556.3	1533.8	1524.2	1504.8	1491.9	1482.3
30°	1537.0	1508.1	1491.9	1475.9	1466.2	1450.2	1430.9	1421.2	1405.1	1392.4	1382.6
32.5°	1421.2	1402.0	1379.4	1373.0	1360.2	1344.0	1331.2	1315.2	1302.3	1289.4	1286.2
35°	1315.2	1289.4	1267.0	1260.5	1250.8	1234.7	1228.4	1218.6	1202.6	1199.4	1186.5
37.5°	1199.4	1186.5	1160.8	1151.2	1147.9	1135.1	1122.2	1115.8	1106.1	1096.5	1093.2
40°	1090.1	1074.0	1061.1	1051.5	1045.0	1035.4	1022.5	1019.3	1012.9	1000.0	996.8
42.5°	987.2	971.1	958.2	955.1	945.3	935.7	929.3	919.6	916.5	913.2	906.7
45°	887.5	877.9	865.0	861.8	858.5	845.7	839.3	832.8	826.4	823.2	816.8
47.5°	797.4	787.8	778.2	774.9	768.5	765.3	755.6	752.5	742.7	739.6	736.3
50°	710.6	704.2	697.8	694.5	688.1	684.9	678.5	672.0	665.6	662.4	659.2
52.5°	633.4	627.0	620.6	617.3	614.2	607.7	601.3	594.8	591.7	588.5	585.2
55°	559.5	553.1	549.9	546.6	543.5	540.2	530.5	527.4	524.1	520.9	514.5
57.5°	492.0	485.5	479.1	479.1	475.9	472.7	466.3	459.8	459.8	453.4	446.9
60°	430.8	424.4	418.1	414.8	411.6	405.2	402.0	398.7	395.5	392.3	385.9
62.5°	366.6	363.4	356.9	356.9	350.5	347.3	344.0	340.9	337.6	331.1	328.0
65°	311.9	308.7	302.3	299.0	299.0	295.8	289.4	286.2	282.9	282.9	279.8
67.5°	260.4	257.2	250.8	247.6	247.6	244.3	241.2	241.2	238.0	234.7	238.0
70°	215.5	209.0	209.0	205.7	205.7	202.6	199.4	199.4	199.4	202.6	202.6
72.5°	170.4	167.2	164.0	164.0	164.0	164.0	160.8	160.8	164.0	167.2	167.2
75°	135.0	131.8	131.8	131.8	128.7	128.7	131.8	131.8	135.0	135.0	135.0
77.5°	99.7	99.7	99.7	99.7	99.7	99.7	102.9	102.9	106.2	106.2	106.2
80°	73.9	73.9	73.9	73.9	73.9	77.2	77.2	77.2	77.2	77.2	80.4
82.5°	51.5	51.5	51.5	51.5	51.5	51.5	51.5	54.7	54.7	54.7	54.7
85°	29.0	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
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: P584675

CATALOG NUMBER: HC845D010-HM82555830-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8	2369.8
2.5°	2321.6	2321.6	2321.6	2324.8	2318.3	2318.3	2318.3	2318.3
5°	2266.9	2263.7	2260.5	2263.7	2257.3	2257.3	2254.0	2254.0
7.5°	2199.4	2196.2	2192.9	2192.9	2186.6	2186.6	2183.3	2180.1
10°	2125.5	2119.0	2122.2	2115.7	2112.6	2109.4	2106.1	2103.0
12.5°	2045.0	2038.7	2035.4	2028.9	2022.6	2019.3	2022.6	2016.2
15°	1958.2	1948.6	1945.4	1939.0	1932.5	1929.4	1929.4	1926.1
17.5°	1861.8	1855.3	1852.2	1845.7	1842.4	1836.1	1832.8	1829.6
20°	1771.7	1755.6	1758.9	1752.5	1749.2	1736.4	1736.4	1739.6
22.5°	1672.1	1662.4	1655.9	1649.6	1646.3	1639.9	1639.9	1636.7
25°	1572.4	1562.8	1559.5	1553.1	1549.9	1543.4	1540.3	1540.3
27.5°	1475.9	1463.1	1463.1	1456.6	1450.2	1447.0	1443.7	1440.6
30°	1373.0	1363.4	1360.2	1360.2	1356.9	1356.9	1347.3	1350.5
32.5°	1276.6	1270.1	1267.0	1260.5	1260.5	1257.2	1257.2	1247.6
35°	1180.0	1170.4	1173.7	1167.3	1164.0	1160.8	1164.0	1160.8
37.5°	1086.8	1080.5	1080.5	1074.0	1074.0	1070.7	1067.5	1074.0
40°	993.5	990.4	987.2	983.9	987.2	983.9	977.5	980.7
42.5°	900.4	900.4	897.1	897.1	893.9	893.9	893.9	893.9
45°	816.8	813.5	813.5	810.3	810.3	810.3	810.3	807.1
47.5°	733.1	730.0	730.0	730.0	726.7	726.7	723.5	726.7
50°	652.8	652.8	649.5	649.5	652.8	649.5	646.3	646.3
52.5°	578.8	578.8	575.6	575.6	572.3	569.1	572.3	572.3
55°	511.3	508.0	504.9	504.9	501.6	498.4	498.4	501.6
57.5°	446.9	443.7	440.6	440.6	434.1	430.8	430.8	430.8
60°	385.9	379.5	379.5	376.2	376.2	373.0	373.0	373.0
62.5°	328.0	324.8	324.8	324.8	324.8	321.5	321.5	321.5
65°	279.8	279.8	279.8	282.9	282.9	286.2	286.2	286.2
67.5°	241.2	244.3	244.3	244.3	247.6	247.6	247.6	244.3
70°	205.7	205.7	205.7	209.0	209.0	209.0	209.0	209.0
72.5°	170.4	170.4	170.4	170.4	170.4	170.4	170.4	170.4
75°	135.0	138.3	138.3	138.3	135.0	138.3	138.3	135.0
77.5°	106.2	106.2	106.2	106.2	106.2	106.2	106.2	106.2
80°	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4
82.5°	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7
85°	32.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1
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)