

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: P584667

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584667  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC845D010-HM82555830-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4579.4 lumens  
Efficiency: N/A  
Efficacy: 104.1 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

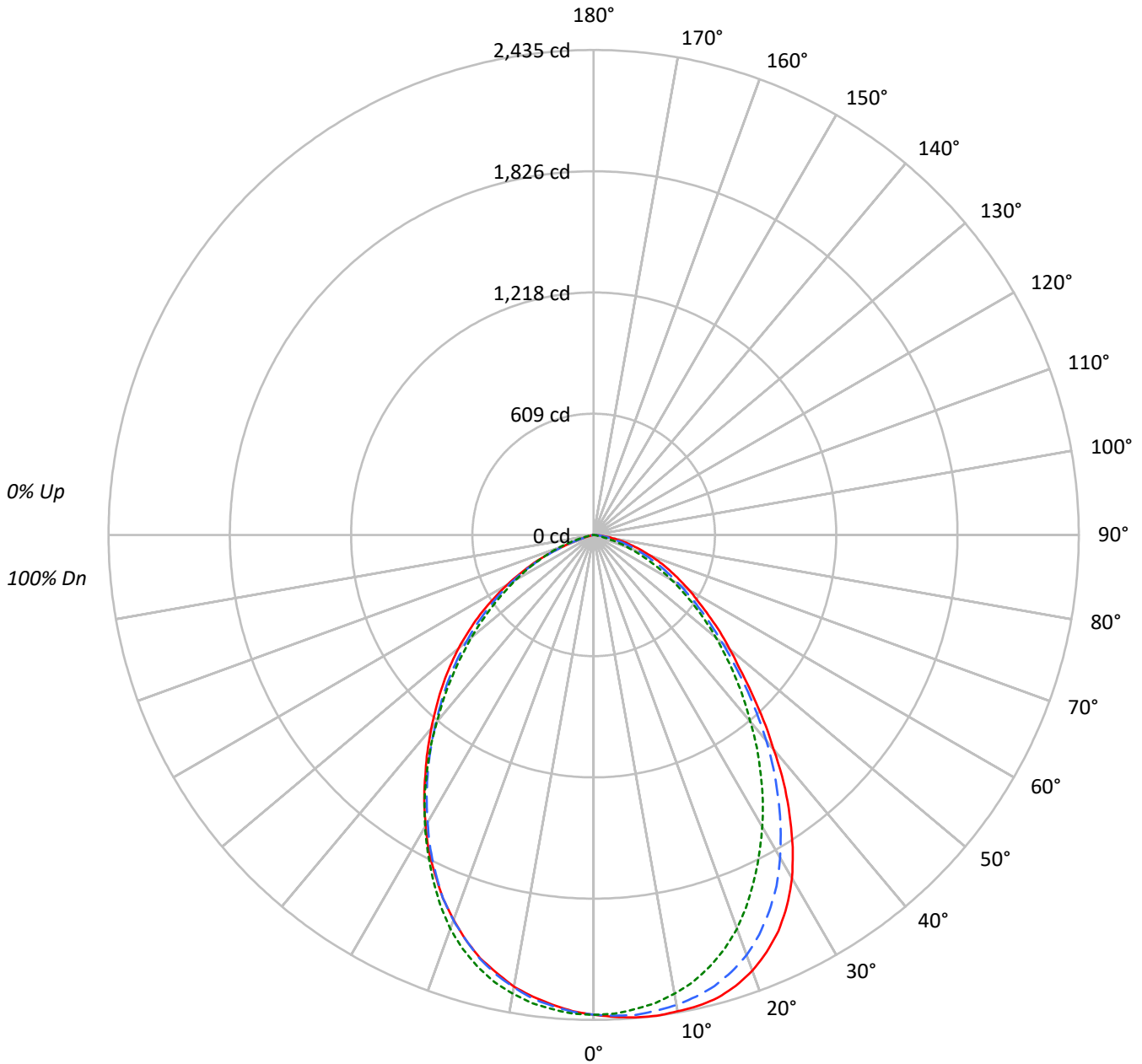
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					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	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77								
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67								
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59								
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52								
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47								
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42								
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38								
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35								
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32								

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

	0°	90°	180°
0°	74300	74300	74300
5°	75280	73986	73290
10°	76051	73229	72121
15°	76819	71686	70246
20°	76430	69040	67458
25°	74649	64904	64033
30°	70904	60254	60022
35°	64548	54979	55465
40°	56589	49210	51018
45°	48820	43770	46858
50°	42749	38426	42442
55°	37875	33031	37359
60°	34123	27777	30947
65°	30755	22298	23706
70°	26976	16247	13046
75°	23006	8423	3455
80°	17705	2291	568
85°	11357	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	227.3	5.0
10°-20°	639.1	14.0
20°-30°	907.1	19.8
30°-40°	954.8	20.9
40°-50°	812.3	17.7
50°-60°	587.0	12.8
60°-70°	333.9	7.3
70°-80°	105.2	2.3
80°-90°	12.8	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°	1773.5	38.7
0°-40°	2728.3	59.6
0°-60°	4127.6	90.1
0°-90°	4579.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4579.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2410	2410	2410	2410	2410	
5°	2432	2419	2390	2374	2368	232
15°	2406	2345	2246	2204	2200	678
25°	2194	2084	1908	1876	1882	1005
35°	1715	1615	1460	1451	1473	1067
45°	1120	1078	1004	1029	1074	870
55°	704	653	614	650	695	635
65°	422	364	306	302	325	418
75°	193	148	71	32	29	208
85°	32	19	0	0	0	42
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°	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5
2.5°	2422.4	2425.6	2419.2	2419.2	2425.6	2419.2	2422.4	2422.4	2419.2	2419.2	2415.9
5°	2432.0	2428.8	2428.8	2428.8	2432.0	2425.6	2422.4	2425.6	2419.2	2419.2	2419.2
7.5°	2435.3	2435.3	2432.0	2428.8	2428.8	2428.8	2425.6	2422.4	2419.2	2412.7	2409.5
10°	2428.8	2428.8	2432.0	2425.6	2425.6	2419.2	2419.2	2412.7	2412.7	2406.3	2396.7
12.5°	2422.4	2419.2	2419.2	2412.7	2412.7	2406.3	2406.3	2396.7	2393.4	2383.8	2374.2
15°	2406.3	2403.1	2396.7	2393.4	2390.2	2386.9	2380.6	2377.3	2367.7	2354.8	2345.2
17.5°	2374.2	2370.9	2367.7	2361.2	2354.8	2351.6	2348.3	2338.7	2325.8	2316.2	2300.1
20°	2329.1	2325.8	2325.8	2316.2	2313.0	2303.3	2300.1	2287.2	2277.6	2258.3	2245.5
22.5°	2268.0	2271.2	2264.7	2258.3	2251.9	2242.2	2235.7	2223.0	2206.9	2187.5	2171.5
25°	2194.0	2197.1	2190.7	2184.4	2174.6	2168.2	2161.8	2142.5	2126.4	2103.9	2084.5
27.5°	2100.7	2100.7	2100.7	2094.3	2078.2	2074.9	2068.5	2049.2	2026.7	2007.4	1988.1
30°	1991.3	1988.1	1988.1	1978.4	1972.0	1959.1	1949.5	1933.3	1917.3	1894.7	1872.2
32.5°	1859.4	1862.6	1853.0	1846.5	1836.9	1836.9	1824.0	1811.1	1791.9	1769.4	1746.8
35°	1714.7	1717.9	1711.4	1708.2	1692.2	1688.9	1685.7	1669.6	1656.7	1640.7	1614.9
37.5°	1566.7	1563.5	1560.2	1560.2	1550.6	1544.1	1537.7	1528.1	1508.7	1495.9	1483.0
40°	1405.8	1405.8	1405.8	1402.6	1399.4	1392.9	1389.8	1383.3	1370.4	1357.5	1347.9
42.5°	1261.1	1261.1	1257.8	1254.6	1248.2	1251.4	1245.0	1238.6	1225.7	1216.0	1209.6
45°	1119.5	1119.5	1119.5	1122.7	1116.2	1106.6	1106.6	1100.2	1093.8	1087.4	1077.6
47.5°	994.0	1003.7	997.3	994.0	997.3	984.4	984.4	977.9	971.5	965.1	952.2
50°	891.1	891.1	891.1	884.7	881.4	881.4	871.8	865.3	862.2	855.7	842.8
52.5°	797.8	791.4	791.4	788.1	785.0	778.5	778.5	772.1	759.2	752.7	743.1
55°	704.5	704.5	701.3	698.1	694.9	691.6	688.4	678.8	672.4	662.7	653.0
57.5°	620.9	627.3	624.0	617.7	611.3	611.3	604.8	598.3	588.7	579.1	569.4
60°	553.3	550.1	550.1	546.9	540.4	537.2	534.1	524.3	514.7	505.1	495.4
62.5°	482.6	482.6	482.6	476.1	469.7	466.5	463.2	456.8	444.0	434.2	427.9
65°	421.5	418.2	415.0	411.7	408.6	402.1	398.9	392.5	382.9	373.1	363.5
67.5°	360.3	357.1	357.1	353.9	344.2	341.0	341.0	331.4	321.8	312.0	302.4
70°	299.2	299.2	299.2	292.8	289.5	286.3	283.0	276.7	267.0	257.4	247.7
72.5°	247.7	244.5	244.5	241.3	231.7	228.4	225.2	218.8	209.1	202.7	196.2
75°	193.1	193.1	189.8	186.6	183.3	180.2	176.9	170.6	160.8	151.2	148.0
77.5°	148.0	144.7	144.7	141.6	135.1	131.8	131.8	125.5	115.8	109.3	103.0
80°	99.7	103.0	99.7	96.5	93.3	90.1	86.8	83.6	77.2	70.7	64.4
82.5°	61.1	64.4	61.1	61.1	57.9	54.7	54.7	48.2	45.0	41.9	38.6
85°	32.1	32.1	32.1	32.1	29.0	29.0	29.0	25.7	22.5	19.4	19.4
87.5°	9.6	12.9	9.6	9.6	9.6	9.6	9.6	9.6	6.5	6.5	6.5
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°	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5
2.5°	2419.2	2415.9	2412.7	2412.7	2412.7	2412.7	2412.7	2409.5	2406.3	2406.3	2406.3
5°	2412.7	2412.7	2412.7	2409.5	2406.3	2406.3	2399.8	2396.7	2393.4	2390.2	2386.9
7.5°	2406.3	2399.8	2396.7	2393.4	2390.2	2390.2	2383.8	2377.3	2377.3	2370.9	2364.4
10°	2386.9	2383.8	2377.3	2370.9	2367.7	2364.4	2358.1	2348.3	2345.2	2338.7	2332.3
12.5°	2364.4	2358.1	2351.6	2338.7	2335.6	2332.3	2319.4	2309.8	2303.3	2300.1	2284.1
15°	2335.6	2322.7	2313.0	2296.9	2293.7	2287.2	2277.6	2268.0	2255.1	2245.5	2239.0
17.5°	2284.1	2271.2	2255.1	2239.0	2232.6	2232.6	2216.5	2203.6	2187.5	2181.1	2168.2
20°	2223.0	2206.9	2194.0	2174.6	2165.0	2155.4	2145.8	2126.4	2113.5	2103.9	2087.8
22.5°	2152.1	2129.6	2113.5	2094.3	2078.2	2068.5	2052.4	2036.3	2020.3	2010.6	1997.7
25°	2062.0	2042.8	2017.1	1997.7	1988.1	1975.2	1955.9	1939.8	1923.7	1907.6	1901.2
27.5°	1962.3	1936.6	1914.1	1891.6	1882.0	1872.2	1849.7	1830.5	1817.6	1801.5	1795.0
30°	1853.0	1827.2	1801.5	1782.1	1772.5	1756.5	1743.5	1721.0	1705.0	1692.2	1676.0
32.5°	1727.5	1708.2	1685.7	1656.7	1650.3	1637.4	1618.2	1608.5	1589.2	1579.6	1566.7
35°	1592.3	1579.6	1557.0	1534.5	1524.8	1518.4	1502.4	1483.0	1470.1	1460.5	1454.1
37.5°	1463.7	1447.6	1425.1	1409.0	1402.6	1392.9	1373.7	1364.0	1351.2	1344.7	1331.8
40°	1325.4	1309.3	1293.2	1283.6	1273.9	1267.4	1254.6	1245.0	1232.1	1222.5	1219.2
42.5°	1190.2	1180.6	1167.7	1154.9	1151.7	1142.0	1135.6	1126.0	1116.2	1113.1	1103.4
45°	1068.0	1058.4	1045.5	1032.6	1029.4	1023.0	1019.8	1010.1	1003.7	1003.7	1003.7
47.5°	945.8	936.2	923.3	916.8	920.1	907.2	907.2	903.9	897.6	897.6	900.7
50°	836.5	823.6	820.3	813.9	807.5	801.0	804.2	794.6	794.6	801.0	797.8
52.5°	733.5	720.6	717.4	711.0	707.8	707.8	704.5	704.5	701.3	704.5	704.5
55°	640.2	630.5	624.0	617.7	614.4	614.4	614.4	611.3	608.0	614.4	617.7
57.5°	556.6	553.3	546.9	537.2	534.1	530.8	527.6	527.6	527.6	527.6	530.8
60°	482.6	476.1	469.7	460.1	460.1	456.8	453.6	450.4	450.4	450.4	450.4
62.5°	418.2	408.6	398.9	392.5	389.2	386.0	382.9	376.4	376.4	376.4	376.4
65°	353.9	344.2	337.8	331.4	324.9	324.9	318.5	315.3	308.9	305.6	299.2
67.5°	292.8	286.3	279.9	270.3	267.0	263.8	257.4	254.2	244.5	241.3	238.0
70°	238.0	228.4	221.9	215.5	212.3	205.9	199.4	193.1	186.6	180.2	173.7
72.5°	186.6	176.9	170.6	164.1	157.7	157.7	148.0	141.6	131.8	125.5	115.8
75°	138.3	128.7	122.2	112.6	109.3	106.2	96.5	90.1	80.5	70.7	64.4
77.5°	93.3	86.8	80.5	70.7	64.4	64.4	54.7	48.2	41.9	32.1	29.0
80°	57.9	51.5	45.0	38.6	38.6	32.1	29.0	22.5	16.1	12.9	9.6
82.5°	32.1	29.0	25.7	19.4	19.4	16.1	12.9	9.6	6.5	3.2	3.2
85°	16.1	12.9	9.6	9.6	6.5	6.5	6.5	3.2	3.2	0.0	0.0
87.5°	6.5	3.2	3.2	3.2	3.2	3.2	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



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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5
2.5°	2403.1	2403.1	2399.8	2399.8	2399.8	2396.7	2399.8	2396.7	2396.7	2396.7	2399.8
5°	2390.2	2383.8	2383.8	2380.6	2380.6	2377.3	2380.6	2377.3	2374.2	2370.9	2374.2
7.5°	2364.4	2358.1	2354.8	2351.6	2351.6	2351.6	2348.3	2345.2	2348.3	2338.7	2345.2
10°	2329.1	2325.8	2319.4	2316.2	2313.0	2316.2	2313.0	2306.6	2306.6	2306.6	2303.3
12.5°	2284.1	2277.6	2274.4	2271.2	2264.7	2264.7	2268.0	2261.5	2261.5	2255.1	2255.1
15°	2229.4	2223.0	2216.5	2216.5	2210.0	2210.0	2206.9	2206.9	2203.6	2200.4	2200.4
17.5°	2161.8	2152.1	2145.8	2148.9	2145.8	2142.5	2142.5	2136.0	2132.9	2136.0	2136.0
20°	2081.4	2074.9	2068.5	2071.8	2065.3	2062.0	2065.3	2055.7	2058.8	2058.8	2058.8
22.5°	1991.3	1988.1	1978.4	1978.4	1972.0	1968.8	1972.0	1972.0	1975.2	1972.0	1972.0
25°	1891.6	1885.1	1878.7	1878.7	1875.5	1872.2	1875.5	1878.7	1875.5	1878.7	1878.7
27.5°	1785.4	1775.8	1775.8	1769.4	1769.4	1772.5	1769.4	1772.5	1775.8	1775.8	1782.1
30°	1669.6	1666.4	1663.2	1659.9	1659.9	1663.2	1663.2	1663.2	1666.4	1672.8	1672.8
32.5°	1560.2	1553.8	1547.3	1547.3	1553.8	1550.6	1553.8	1553.8	1560.2	1560.2	1566.7
35°	1441.1	1441.1	1434.8	1438.0	1438.0	1438.0	1438.0	1444.4	1450.9	1454.1	1460.5
37.5°	1331.8	1322.2	1325.4	1325.4	1328.7	1325.4	1335.0	1335.0	1341.4	1341.4	1347.9
40°	1212.8	1212.8	1216.0	1212.8	1216.0	1216.0	1222.5	1228.8	1232.1	1238.6	1241.7
42.5°	1100.2	1106.6	1100.2	1103.4	1106.6	1109.9	1113.1	1116.2	1129.1	1135.6	1145.2
45°	997.3	1000.5	1003.7	1006.9	1003.7	1010.1	1013.4	1019.8	1029.4	1032.6	1035.9
47.5°	897.6	900.7	903.9	907.2	907.2	913.6	916.8	923.3	929.7	932.9	936.2
50°	801.0	807.5	810.7	810.7	813.9	820.3	826.7	826.7	833.2	842.8	846.1
52.5°	714.1	714.1	720.6	723.9	727.0	727.0	736.6	739.9	743.1	749.5	756.0
55°	617.7	627.3	630.5	630.5	636.9	643.4	646.6	649.8	649.8	662.7	662.7
57.5°	534.1	537.2	543.7	543.7	543.7	553.3	553.3	559.8	562.9	566.2	572.7
60°	450.4	456.8	456.8	460.1	456.8	463.2	466.5	472.8	476.1	479.3	482.6
62.5°	373.1	373.1	376.4	376.4	376.4	376.4	382.9	382.9	389.2	392.5	395.7
65°	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	302.4	302.4	308.9
67.5°	231.7	228.4	221.9	225.2	221.9	221.9	218.8	218.8	221.9	221.9	228.4
70°	167.3	164.1	157.7	157.7	154.4	151.2	148.0	144.7	141.6	141.6	141.6
72.5°	109.3	103.0	93.3	90.1	90.1	83.6	77.2	74.0	74.0	74.0	74.0
75°	54.7	48.2	41.9	38.6	38.6	32.1	35.4	32.1	32.1	32.1	32.1
77.5°	22.5	16.1	12.9	12.9	12.9	9.6	9.6	9.6	9.6	9.6	9.6
80°	6.5	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
82.5°	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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: P584667

CATALOG NUMBER: HC845D010-HM82555830-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5	2409.5
2.5°	2396.7	2396.7	2390.2	2393.4	2393.4	2393.4	2393.4	2393.4
5°	2367.7	2370.9	2367.7	2370.9	2370.9	2367.7	2367.7	2367.7
7.5°	2338.7	2341.9	2338.7	2341.9	2341.9	2341.9	2338.7	2338.7
10°	2303.3	2303.3	2303.3	2303.3	2303.3	2300.1	2303.3	2303.3
12.5°	2255.1	2255.1	2255.1	2258.3	2258.3	2255.1	2255.1	2251.9
15°	2203.6	2197.1	2200.4	2203.6	2200.4	2200.4	2200.4	2200.4
17.5°	2132.9	2136.0	2132.9	2132.9	2132.9	2132.9	2136.0	2132.9
20°	2058.8	2058.8	2062.0	2058.8	2058.8	2058.8	2058.8	2055.7
22.5°	1975.2	1972.0	1972.0	1975.2	1975.2	1972.0	1975.2	1975.2
25°	1882.0	1885.1	1882.0	1882.0	1885.1	1885.1	1885.1	1882.0
27.5°	1782.1	1785.4	1788.6	1785.4	1785.4	1785.4	1788.6	1791.9
30°	1679.3	1685.7	1679.3	1679.3	1685.7	1682.4	1685.7	1685.7
32.5°	1569.8	1579.6	1573.1	1579.6	1579.6	1582.7	1579.6	1582.7
35°	1460.5	1470.1	1470.1	1470.1	1473.4	1476.6	1476.6	1473.4
37.5°	1357.5	1360.8	1360.8	1367.2	1370.4	1373.7	1373.7	1370.4
40°	1251.4	1257.8	1261.1	1261.1	1261.1	1267.4	1273.9	1267.4
42.5°	1148.5	1151.7	1154.9	1154.9	1161.3	1164.6	1167.7	1167.7
45°	1048.8	1055.1	1058.4	1061.6	1064.8	1071.3	1068.0	1074.5
47.5°	945.8	955.4	958.7	961.9	968.3	971.5	974.8	977.9
50°	852.5	858.9	858.9	865.3	875.1	875.1	881.4	884.7
52.5°	759.2	762.4	765.6	768.9	775.2	781.7	781.7	788.1
55°	669.1	672.4	672.4	675.5	678.8	691.6	694.9	694.9
57.5°	575.8	575.8	582.3	585.4	588.7	595.2	595.2	595.2
60°	485.7	489.0	489.0	492.2	495.4	501.8	505.1	501.8
62.5°	395.7	398.9	398.9	402.1	408.6	411.7	408.6	408.6
65°	312.0	315.3	315.3	318.5	324.9	324.9	321.8	324.9
67.5°	228.4	228.4	228.4	228.4	228.4	228.4	228.4	228.4
70°	144.7	141.6	138.3	141.6	141.6	141.6	138.3	144.7
72.5°	70.7	74.0	74.0	74.0	74.0	74.0	74.0	70.7
75°	32.1	32.1	29.0	29.0	29.0	32.1	32.1	29.0
77.5°	9.6	9.6	9.6	9.6	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°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	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)