

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: P584676

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584676  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC845D010-HM82555830-81WWWB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4553.7 lumens  
Efficiency: N/A  
Efficacy: 103.5 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

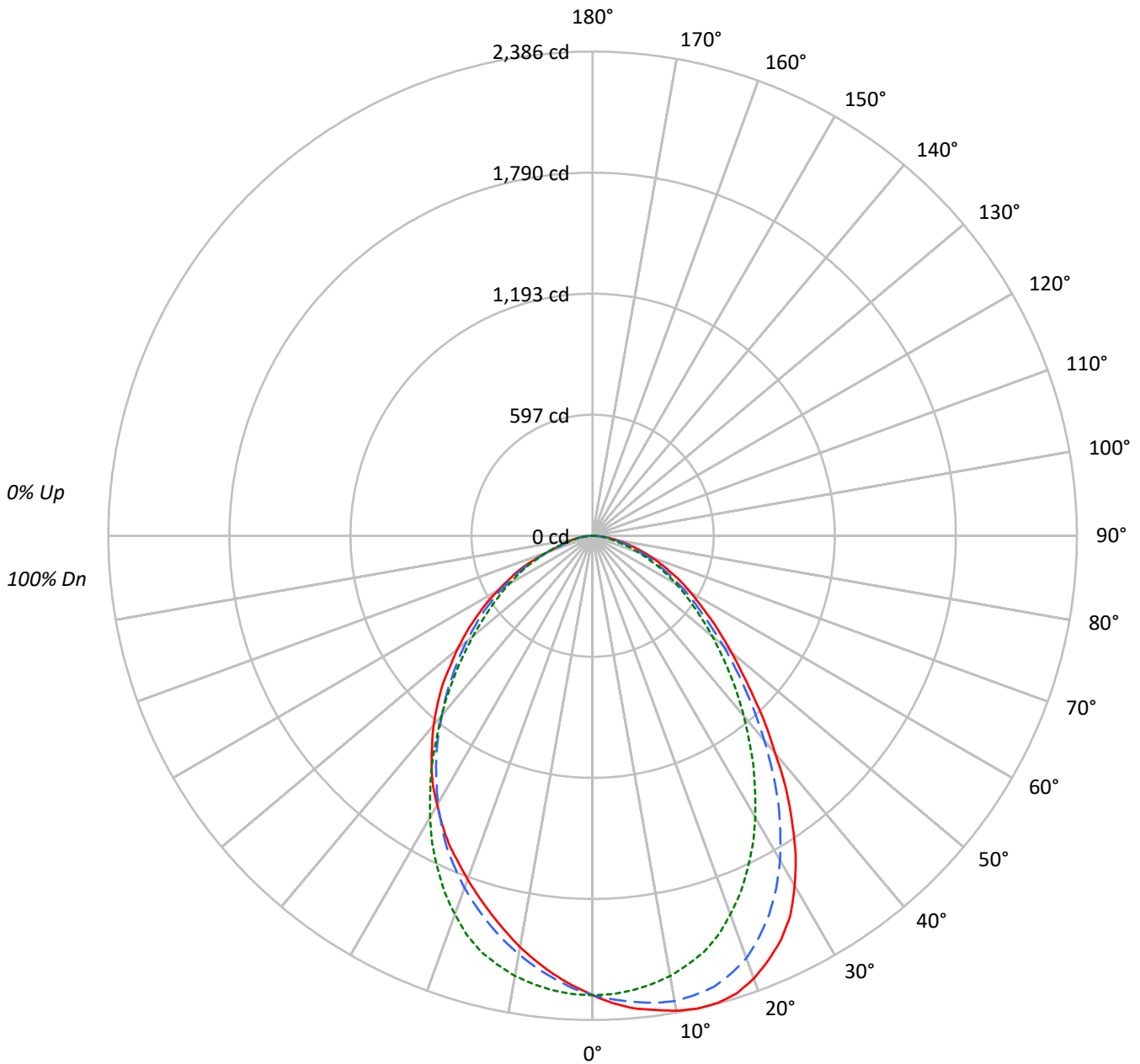
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87								
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75								
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65								
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57								
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50								
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45								
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40								
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37								
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33								
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30								

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

	0°	90°	180°
0°	69816	69816	69816
5°	72371	69588	67198
10°	74419	68980	64450
15°	76078	67765	61601
20°	76197	65119	59100
25°	74737	61499	57007
30°	70882	57028	54510
35°	64405	51938	52062
40°	56315	46606	49066
45°	48807	41516	45720
50°	42739	36877	41660
55°	38042	32676	37692
60°	34315	29356	33124
65°	30974	25815	28858
70°	27832	21746	21458
75°	24531	17240	16096
80°	20564	14277	15414
85°	15921	12525	13657



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	213.6	4.7
10°-20°	601.6	13.2
20°-30°	859.8	18.9
30°-40°	913.5	20.1
40°-50°	786.5	17.3
50°-60°	588.1	12.9
60°-70°	375.1	8.2
70°-80°	170.7	3.7
80°-90°	44.8	1.0
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°	1675.0	36.8
0°-40°	2588.5	56.8
0°-60°	3963.1	87.0
0°-90°	4553.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4553.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2264	2264	2264	2264	2264	
5°	2338	2306	2248	2190	2171	224
15°	2383	2303	2123	1978	1930	671
25°	2197	2058	1808	1698	1676	1005
35°	1711	1592	1380	1344	1383	1066
45°	1119	1058	952	978	1048	870
55°	708	650	608	659	701	636
65°	424	376	354	370	396	423
75°	206	177	145	132	135	219
85°	45	39	35	39	39	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°	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1
2.5°	2305.9	2299.4	2302.7	2299.4	2302.7	2302.7	2296.3	2296.3	2296.3	2296.3	2286.6
5°	2338.0	2334.9	2334.9	2331.7	2328.4	2331.7	2328.4	2325.2	2318.8	2315.6	2305.9
7.5°	2357.4	2357.4	2357.4	2357.4	2354.2	2350.9	2347.8	2341.3	2334.9	2328.4	2322.0
10°	2376.7	2379.9	2376.7	2373.4	2370.3	2363.8	2360.5	2354.2	2344.5	2334.9	2328.4
12.5°	2386.4	2386.4	2383.1	2383.1	2376.7	2373.4	2363.8	2354.2	2344.5	2334.9	2318.8
15°	2383.1	2383.1	2379.9	2376.7	2367.0	2363.8	2357.4	2347.8	2331.7	2318.8	2302.7
17.5°	2363.8	2360.5	2354.2	2354.2	2341.3	2338.0	2331.7	2318.8	2302.7	2283.4	2264.1
20°	2322.0	2322.0	2318.8	2315.6	2302.7	2293.1	2286.6	2270.6	2257.7	2235.2	2215.9
22.5°	2264.1	2270.6	2264.1	2257.7	2241.6	2238.4	2228.7	2209.5	2190.1	2164.4	2141.9
25°	2196.6	2193.4	2190.1	2183.7	2170.9	2164.4	2151.5	2132.3	2112.9	2084.1	2058.3
27.5°	2109.8	2096.9	2096.9	2084.1	2074.3	2064.7	2058.3	2039.0	2013.2	1990.7	1958.6
30°	1990.7	1994.0	1977.9	1974.6	1958.6	1952.1	1939.3	1920.0	1897.4	1871.8	1846.1
32.5°	1862.1	1852.4	1852.4	1839.6	1826.7	1817.1	1813.8	1791.4	1772.1	1746.4	1720.6
35°	1710.9	1710.9	1701.3	1698.0	1685.2	1678.8	1669.2	1656.3	1633.8	1611.2	1592.0
37.5°	1563.0	1556.6	1553.4	1547.0	1537.3	1527.6	1527.6	1505.1	1501.9	1476.2	1450.4
40°	1399.0	1405.4	1399.0	1389.3	1386.1	1379.7	1376.5	1363.6	1354.0	1331.5	1315.4
42.5°	1260.7	1254.3	1254.3	1251.0	1238.2	1238.2	1231.8	1225.3	1209.2	1202.8	1183.6
45°	1119.2	1125.6	1116.0	1119.2	1106.4	1106.4	1106.4	1093.5	1080.6	1070.9	1058.0
47.5°	996.9	1000.2	1000.2	990.6	987.3	987.3	980.9	974.4	964.8	952.0	942.3
50°	890.9	894.1	887.6	884.4	878.0	874.8	874.8	861.9	855.5	842.6	836.2
52.5°	794.4	794.4	791.2	791.2	781.5	781.5	775.1	765.4	759.0	752.6	736.5
55°	707.6	707.6	704.3	701.1	701.1	691.5	688.2	678.6	672.1	659.3	649.6
57.5°	623.9	627.1	623.9	620.8	617.5	614.3	607.8	598.2	591.8	582.2	575.7
60°	556.4	556.4	553.2	549.9	543.6	540.3	537.1	530.7	521.0	514.6	505.0
62.5°	492.1	488.8	485.6	482.5	476.0	476.0	469.6	463.1	453.5	447.0	440.6
65°	424.5	424.5	421.3	421.3	418.1	411.6	408.4	405.3	392.4	389.2	376.3
67.5°	363.4	366.7	360.2	360.2	353.8	353.8	350.6	340.9	337.7	331.3	324.8
70°	308.7	308.7	308.7	305.6	299.1	295.8	292.7	286.2	283.0	276.6	270.1
72.5°	254.1	254.1	250.9	250.9	247.6	244.5	241.2	234.7	234.7	228.4	221.9
75°	205.9	205.9	202.6	199.4	196.1	196.1	193.0	189.8	183.3	180.1	176.9
77.5°	157.5	157.5	157.5	154.4	151.2	151.2	151.2	144.7	138.3	138.3	135.1
80°	115.8	115.8	112.6	112.6	109.3	109.3	109.3	106.2	102.9	99.7	96.5
82.5°	77.2	77.2	77.2	77.2	74.0	74.0	74.0	70.7	67.6	67.6	67.6
85°	45.0	45.0	45.0	45.0	41.8	41.8	41.8	41.8	41.8	38.6	38.6
87.5°	19.4	16.1	19.4	16.1	19.4	16.1	19.4	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°	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1
2.5°	2289.8	2286.6	2283.4	2280.2	2280.2	2277.0	2270.6	2267.3	2264.1	2260.8	2260.8
5°	2302.7	2299.4	2293.1	2286.6	2283.4	2277.0	2270.6	2264.1	2257.7	2248.1	2244.8
7.5°	2312.3	2302.7	2296.3	2283.4	2280.2	2273.7	2264.1	2254.5	2241.6	2228.7	2219.1
10°	2312.3	2299.4	2289.8	2273.7	2267.3	2260.8	2248.1	2232.0	2215.9	2203.0	2186.9
12.5°	2305.9	2289.8	2273.7	2257.7	2248.1	2238.4	2219.1	2203.0	2183.7	2164.4	2151.5
15°	2283.4	2264.1	2244.8	2225.5	2215.9	2203.0	2183.7	2161.3	2141.9	2122.7	2100.1
17.5°	2241.6	2222.2	2199.8	2177.3	2164.4	2154.8	2125.8	2109.8	2080.8	2061.5	2042.2
20°	2186.9	2164.4	2135.4	2112.9	2096.9	2087.2	2064.7	2035.7	2013.2	1984.4	1965.0
22.5°	2116.2	2087.2	2058.3	2035.7	2019.7	2006.8	1977.9	1948.9	1929.6	1903.9	1881.4
25°	2032.6	2003.6	1974.6	1942.5	1926.4	1913.5	1887.8	1862.1	1836.3	1807.5	1788.1
27.5°	1932.9	1900.7	1874.9	1846.1	1830.0	1810.6	1781.7	1756.0	1730.3	1710.9	1685.2
30°	1823.5	1788.1	1762.4	1733.5	1717.4	1701.3	1672.3	1646.7	1624.1	1601.6	1588.7
32.5°	1691.7	1665.9	1640.2	1611.2	1598.3	1588.7	1559.7	1534.0	1508.4	1489.0	1479.4
35°	1566.2	1537.3	1514.8	1489.0	1472.9	1463.3	1437.6	1415.1	1402.2	1379.7	1366.8
37.5°	1434.3	1411.8	1386.1	1360.4	1350.7	1341.1	1321.9	1299.3	1280.0	1263.9	1257.5
40°	1296.0	1276.8	1254.3	1238.2	1228.5	1218.9	1202.8	1186.7	1173.8	1157.8	1151.3
42.5°	1164.2	1151.3	1132.1	1112.7	1103.1	1099.9	1080.6	1067.8	1061.3	1054.9	1048.4
45°	1045.3	1025.9	1013.1	1000.2	990.6	984.1	974.4	964.8	958.3	952.0	945.6
47.5°	929.5	913.4	900.5	890.9	881.2	878.0	871.5	861.9	855.5	855.5	855.5
50°	823.3	810.4	797.6	791.2	787.9	781.5	775.1	771.8	768.7	768.7	768.7
52.5°	730.1	717.2	707.6	701.1	701.1	694.7	688.2	685.0	685.0	685.0	685.0
55°	643.2	633.5	627.1	620.8	614.3	611.0	611.0	611.0	607.8	607.8	611.0
57.5°	566.0	559.6	549.9	543.6	540.3	540.3	537.1	533.8	537.1	540.3	543.6
60°	495.2	488.8	485.6	476.0	476.0	476.0	472.7	472.7	472.7	476.0	479.2
62.5°	431.0	427.8	421.3	418.1	414.9	414.9	411.6	411.6	411.6	411.6	414.9
65°	373.0	366.7	360.2	360.2	360.2	356.9	356.9	350.6	353.8	353.8	350.6
67.5°	318.4	311.9	308.7	305.6	302.3	302.3	299.1	295.8	292.7	292.7	292.7
70°	267.0	260.5	260.5	254.1	254.1	250.9	247.6	247.6	244.5	241.2	238.0
72.5°	215.5	212.3	209.0	205.9	205.9	205.9	202.6	199.4	196.1	193.0	186.5
75°	170.4	170.4	164.0	160.8	160.8	157.5	154.4	151.2	147.9	144.7	141.5
77.5°	131.8	128.7	122.2	118.9	118.9	118.9	115.8	112.6	109.3	106.2	102.9
80°	96.5	93.3	90.1	86.8	86.8	86.8	83.6	83.6	80.4	80.4	80.4
82.5°	64.3	64.3	61.1	61.1	61.1	61.1	57.9	57.9	57.9	57.9	57.9
85°	38.6	38.6	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4
87.5°	16.1	16.1	16.1	16.1	16.1	16.1	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):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1
2.5°	2254.5	2254.5	2248.1	2244.8	2241.6	2244.8	2238.4	2235.2	2232.0	2232.0	2228.7
5°	2235.2	2232.0	2219.1	2215.9	2212.6	2209.5	2203.0	2196.6	2190.1	2186.9	2183.7
7.5°	2209.5	2199.8	2186.9	2183.7	2180.5	2170.9	2161.3	2154.8	2145.1	2141.9	2135.4
10°	2174.0	2161.3	2151.5	2141.9	2135.4	2125.8	2116.2	2106.5	2093.7	2090.4	2080.8
12.5°	2132.3	2116.2	2096.9	2093.7	2084.1	2071.2	2058.3	2048.6	2039.0	2032.6	2023.0
15°	2080.8	2064.7	2045.5	2035.7	2026.1	2016.5	2000.4	1987.5	1977.9	1968.2	1958.6
17.5°	2019.7	2000.4	1984.4	1974.6	1968.2	1952.1	1939.3	1923.3	1913.5	1903.9	1894.3
20°	1945.8	1929.6	1907.2	1897.4	1894.3	1881.4	1865.3	1858.9	1846.1	1836.3	1830.0
22.5°	1862.1	1846.1	1826.7	1820.3	1807.5	1801.0	1785.0	1778.5	1772.1	1762.4	1759.1
25°	1768.9	1752.8	1736.6	1733.5	1723.8	1717.4	1707.8	1698.0	1698.0	1688.4	1688.4
27.5°	1672.3	1656.3	1643.4	1636.9	1633.8	1627.3	1617.7	1614.5	1611.2	1608.1	1608.1
30°	1569.5	1550.1	1543.7	1540.5	1537.3	1530.9	1527.6	1521.1	1524.4	1527.6	1524.4
32.5°	1460.2	1453.7	1440.8	1434.3	1437.6	1434.3	1427.9	1434.3	1431.2	1437.6	1440.8
35°	1354.0	1347.5	1341.1	1341.1	1334.6	1334.6	1334.6	1337.9	1344.3	1347.5	1354.0
37.5°	1251.0	1241.4	1238.2	1234.9	1238.2	1238.2	1238.2	1244.7	1251.0	1257.5	1267.1
40°	1141.7	1135.2	1135.2	1135.2	1135.2	1145.0	1141.7	1148.1	1154.6	1164.2	1173.8
42.5°	1038.8	1038.8	1042.0	1042.0	1042.0	1042.0	1048.4	1058.0	1067.8	1077.4	1087.0
45°	942.3	942.3	942.3	948.7	948.7	952.0	964.8	971.2	977.7	987.3	996.9
47.5°	852.3	852.3	855.5	858.6	861.9	868.4	874.8	884.4	894.1	900.5	910.1
50°	768.7	771.8	778.3	784.7	784.7	787.9	797.6	804.0	810.4	820.0	823.3
52.5°	688.2	694.7	701.1	704.3	707.6	714.0	717.2	726.8	730.1	739.7	742.9
55°	614.3	617.5	627.1	630.4	630.4	636.8	643.2	649.6	659.3	659.3	665.7
57.5°	546.7	549.9	556.4	559.6	556.4	566.0	569.3	575.7	578.9	585.3	588.5
60°	479.2	485.6	488.8	488.8	492.1	495.2	501.7	501.7	508.1	514.6	514.6
62.5°	414.9	418.1	421.3	424.5	427.8	424.5	434.1	434.1	440.6	443.9	450.2
65°	353.8	356.9	356.9	360.2	360.2	363.4	363.4	366.7	369.8	376.3	379.5
67.5°	292.7	292.7	292.7	295.8	292.7	295.8	295.8	299.1	299.1	305.6	308.7
70°	238.0	234.7	231.6	231.6	231.6	231.6	228.4	231.6	231.6	234.7	234.7
72.5°	183.3	180.1	176.9	173.7	173.7	170.4	167.3	170.4	170.4	173.7	173.7
75°	138.3	131.8	131.8	131.8	128.7	128.7	128.7	131.8	131.8	131.8	135.1
77.5°	102.9	102.9	99.7	99.7	99.7	102.9	102.9	106.2	106.2	106.2	106.2
80°	77.2	80.4	80.4	80.4	80.4	83.6	83.6	83.6	83.6	86.8	86.8
82.5°	57.9	57.9	57.9	57.9	61.1	61.1	61.1	61.1	61.1	61.1	61.1
85°	35.4	38.6	38.6	35.4	38.6	38.6	38.6	38.6	38.6	38.6	38.6
87.5°	16.1	16.1	16.1	16.1	16.1	16.1	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: P584676

CATALOG NUMBER: HC845D010-HM82555830-81WWWB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1	2264.1
2.5°	2225.5	2225.5	2225.5	2225.5	2222.2	2222.2	2222.2	2219.1
5°	2177.3	2177.3	2177.3	2170.9	2174.0	2174.0	2167.6	2170.9
7.5°	2129.0	2125.8	2122.7	2122.7	2119.4	2116.2	2112.9	2116.2
10°	2074.3	2064.7	2064.7	2061.5	2061.5	2055.1	2055.1	2058.3
12.5°	2013.2	2006.8	2006.8	2003.6	2000.4	1997.1	1994.0	1994.0
15°	1952.1	1945.8	1942.5	1939.3	1936.0	1929.6	1932.9	1929.6
17.5°	1891.0	1881.4	1881.4	1878.2	1874.9	1868.6	1868.6	1865.3
20°	1820.3	1817.1	1810.6	1813.8	1810.6	1804.2	1801.0	1801.0
22.5°	1749.5	1749.5	1746.4	1746.4	1743.1	1739.9	1736.6	1736.6
25°	1682.0	1678.8	1682.0	1682.0	1672.3	1672.3	1672.3	1675.5
27.5°	1604.8	1608.1	1604.8	1604.8	1604.8	1604.8	1608.1	1604.8
30°	1527.6	1527.6	1527.6	1530.9	1537.3	1534.0	1534.0	1530.9
32.5°	1444.0	1447.2	1447.2	1450.4	1453.7	1460.2	1460.2	1463.3
35°	1360.4	1366.8	1370.1	1366.8	1376.5	1376.5	1383.0	1383.0
37.5°	1273.5	1276.8	1283.3	1286.4	1292.9	1296.0	1299.3	1299.3
40°	1180.3	1193.2	1196.3	1199.6	1209.2	1209.2	1212.4	1218.9
42.5°	1093.5	1106.4	1109.5	1112.7	1119.2	1128.9	1125.6	1132.1
45°	1009.8	1019.5	1022.7	1025.9	1035.5	1038.8	1038.8	1048.4
47.5°	919.7	926.2	929.5	935.8	942.3	948.7	955.2	952.0
50°	829.8	839.4	845.9	849.0	858.6	861.9	865.1	868.4
52.5°	749.3	755.8	759.0	762.2	771.8	775.1	778.3	784.7
55°	672.1	675.4	681.9	678.6	688.2	691.5	694.7	701.1
57.5°	594.9	598.2	601.4	601.4	607.8	614.3	617.5	620.8
60°	521.0	527.4	530.7	530.7	530.7	537.1	537.1	537.1
62.5°	453.5	453.5	456.6	456.6	463.1	463.1	463.1	463.1
65°	382.7	385.9	389.2	389.2	395.5	392.4	398.8	395.5
67.5°	308.7	308.7	315.2	315.2	311.9	315.2	315.2	315.2
70°	234.7	234.7	238.0	238.0	238.0	238.0	238.0	238.0
72.5°	173.7	173.7	173.7	176.9	173.7	173.7	176.9	173.7
75°	135.1	135.1	135.1	135.1	135.1	135.1	135.1	135.1
77.5°	106.2	106.2	109.3	109.3	109.3	109.3	109.3	109.3
80°	86.8	86.8	86.8	86.8	90.1	86.8	86.8	86.8
82.5°	64.3	61.1	64.3	61.1	64.3	64.3	64.3	64.3
85°	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6
87.5°	16.1	16.1	16.1	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



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















(END OF REPORT)