

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: P584743

Luminaire Tested: **HC845D010-HM82555930-81WWW**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584743  
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-HM82555930-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4300.3 lumens  
Efficiency: N/A  
Efficacy: 97.7 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

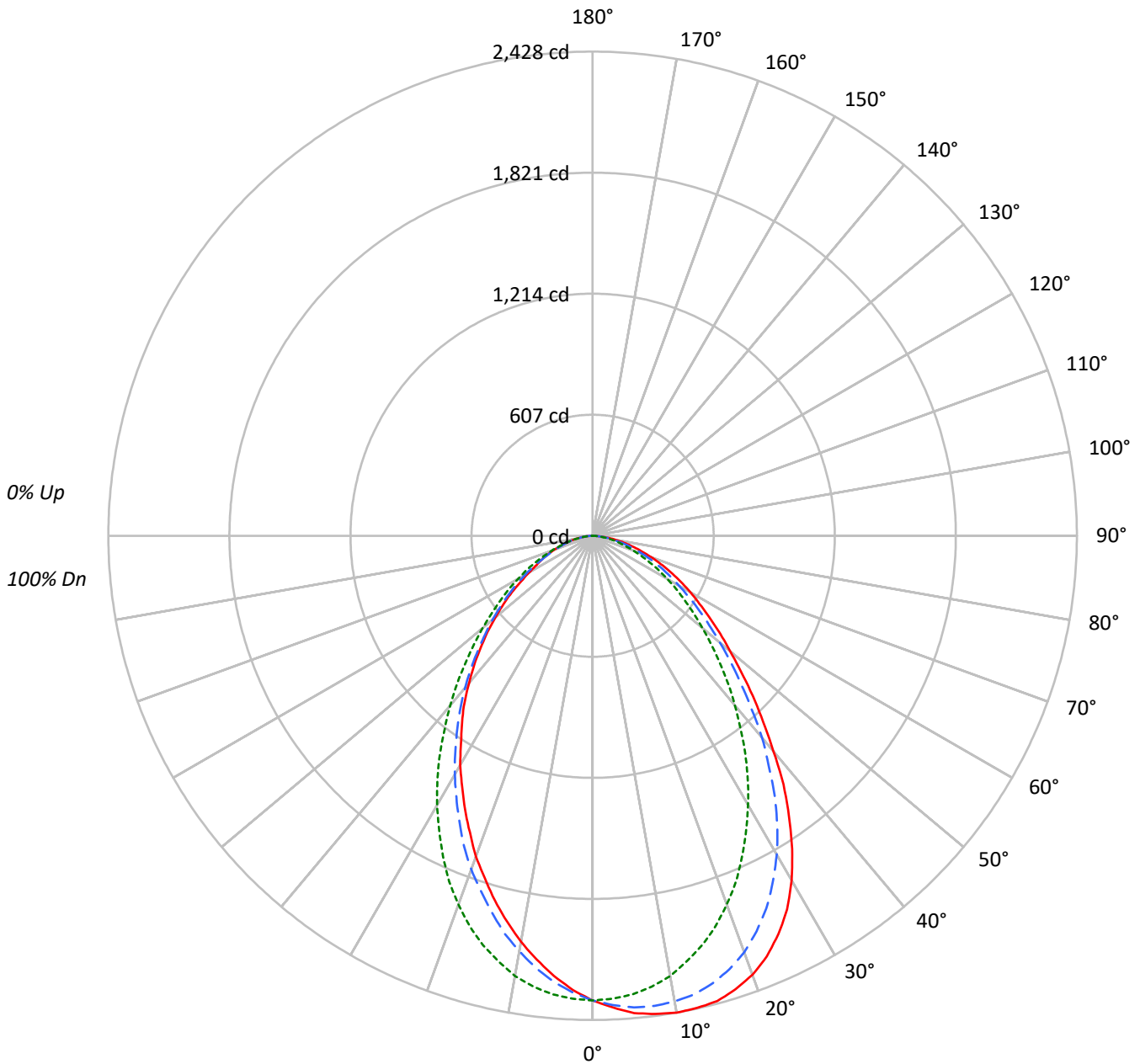
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	71849	71849	71849
5°	74377	71442	68604
10°	76029	70189	64741
15°	77109	67823	60458
20°	76876	64531	56131
25°	74976	60349	51523
30°	71032	55500	47279
35°	64624	50225	42963
40°	56762	44670	38817
45°	49496	39296	34604
50°	43075	34425	30487
55°	38413	30257	26515
60°	34907	26519	22622
65°	31375	23064	20532
70°	27931	19673	18528
75°	24484	16573	15822
80°	20759	13478	14047
85°	15638	10084	11216



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	218.2	5.1
10°-20°	601.3	14.0
20°-30°	834.7	19.4
30°-40°	863.0	20.1
40°-50°	722.6	16.8
50°-60°	524.6	12.2
60°-70°	331.0	7.7
70°-80°	164.0	3.8
80°-90°	40.8	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°	1654.3	38.5
0°-40°	2517.3	58.5
0°-60°	3764.5	87.5
0°-90°	4300.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4300.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2330	2330	2330	2330	2330	
5°	2403	2374	2308	2245	2216	230
15°	2415	2324	2124	1954	1894	680
25°	2204	2061	1774	1581	1514	1010
35°	1717	1590	1334	1182	1141	1069
45°	1135	1053	901	812	794	878
55°	714	651	563	515	493	645
65°	430	376	316	278	281	429
75°	206	171	139	133	133	220
85°	44	35	28	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°	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0
2.5°	2368.1	2368.1	2371.2	2368.1	2368.1	2368.1	2364.9	2364.9	2361.7	2361.7	2355.4
5°	2402.8	2396.4	2402.8	2396.4	2396.4	2396.4	2393.3	2386.9	2383.8	2377.6	2374.4
7.5°	2418.6	2415.4	2415.4	2412.3	2412.3	2409.1	2405.9	2402.8	2390.1	2386.9	2377.6
10°	2428.1	2424.9	2424.9	2421.8	2415.4	2415.4	2409.1	2405.9	2390.1	2383.8	2371.2
12.5°	2424.9	2424.9	2424.9	2421.8	2412.3	2409.1	2402.8	2393.3	2380.7	2368.1	2355.4
15°	2415.4	2415.4	2409.1	2405.9	2396.4	2390.1	2386.9	2371.2	2358.6	2342.7	2323.7
17.5°	2383.8	2383.8	2380.7	2374.4	2364.9	2358.6	2352.2	2336.4	2323.7	2298.5	2279.5
20°	2342.7	2339.5	2336.4	2326.9	2317.4	2314.3	2304.8	2282.7	2266.8	2247.9	2222.6
22.5°	2282.7	2279.5	2276.3	2270.0	2254.2	2247.9	2241.6	2225.8	2197.3	2178.4	2146.7
25°	2203.6	2203.6	2197.3	2187.8	2172.0	2165.7	2156.2	2140.4	2115.0	2086.6	2061.3
27.5°	2112.0	2108.8	2099.3	2093.0	2080.3	2070.8	2055.0	2036.1	2010.8	1988.6	1957.0
30°	1994.9	1994.9	1988.6	1979.2	1963.4	1957.0	1944.4	1922.2	1897.0	1868.5	1846.3
32.5°	1862.1	1862.1	1852.6	1846.3	1836.9	1821.1	1817.9	1792.6	1770.5	1748.4	1723.0
35°	1716.7	1719.9	1713.5	1701.0	1685.1	1685.1	1678.8	1656.6	1631.4	1609.2	1590.2
37.5°	1571.4	1561.8	1558.7	1552.3	1542.8	1530.2	1523.8	1514.3	1492.3	1476.5	1448.0
40°	1410.1	1413.2	1406.9	1400.6	1397.4	1387.9	1384.7	1369.0	1353.2	1334.2	1321.5
42.5°	1264.6	1264.6	1264.6	1258.3	1251.9	1242.4	1239.4	1229.9	1210.9	1198.2	1179.2
45°	1135.0	1125.5	1125.5	1122.3	1119.2	1112.8	1103.4	1097.1	1084.4	1074.9	1052.8
47.5°	1008.5	1011.7	1008.5	1005.4	995.9	992.7	989.5	976.9	964.3	954.8	939.0
50°	897.9	904.3	897.9	897.9	891.6	888.4	882.1	872.6	863.1	847.3	831.5
52.5°	806.2	806.2	803.0	799.9	790.4	784.0	780.9	777.7	762.0	749.3	736.6
55°	714.5	717.6	717.6	708.1	705.0	698.8	695.6	686.1	679.8	660.8	651.2
57.5°	635.5	632.4	635.5	629.2	622.9	616.5	613.4	607.0	597.5	584.9	572.2
60°	566.0	559.6	559.6	556.5	550.1	547.0	540.6	531.1	521.6	509.0	499.6
62.5°	496.4	493.2	490.1	486.9	480.6	477.4	474.2	464.7	455.2	445.7	436.2
65°	430.0	430.0	426.9	420.5	417.4	414.2	411.0	404.7	392.0	385.7	376.2
67.5°	369.8	366.8	366.8	360.5	354.1	351.0	351.0	344.6	335.1	325.6	319.3
70°	309.8	313.0	309.8	306.6	300.4	300.4	294.1	290.9	278.2	275.1	265.6
72.5°	256.1	256.1	252.9	252.9	246.6	243.4	243.4	237.1	230.8	224.5	218.2
75°	205.5	205.5	205.5	202.3	199.2	192.8	192.8	189.7	183.3	177.0	170.7
77.5°	161.3	158.1	158.1	155.0	151.8	148.6	148.6	145.5	139.1	136.0	129.6
80°	116.9	113.8	113.8	113.8	107.4	110.6	107.4	104.3	101.1	98.1	94.9
82.5°	75.9	79.1	79.1	75.9	72.7	72.7	72.7	69.6	69.6	66.4	63.2
85°	44.2	44.2	44.2	44.2	41.1	41.1	41.1	37.9	37.9	37.9	34.7
87.5°	19.0	19.0	19.0	19.0	19.0	19.0	15.8	15.8	15.8	15.8	15.8
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°	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0
2.5°	2355.4	2349.0	2345.9	2342.7	2342.7	2339.5	2336.4	2330.0	2330.0	2323.7	2320.5
5°	2368.1	2358.6	2352.2	2345.9	2342.7	2336.4	2330.0	2320.5	2317.4	2308.0	2298.5
7.5°	2371.2	2355.4	2349.0	2336.4	2330.0	2323.7	2311.2	2301.7	2289.0	2279.5	2266.8
10°	2358.6	2345.9	2330.0	2314.3	2311.2	2301.7	2282.7	2270.0	2254.2	2241.6	2222.6
12.5°	2339.5	2320.5	2304.8	2285.8	2276.3	2266.8	2247.9	2228.9	2206.8	2184.6	2165.7
15°	2308.0	2285.8	2263.7	2241.6	2228.9	2219.4	2197.3	2175.2	2153.0	2124.5	2105.7
17.5°	2260.5	2235.3	2213.1	2184.6	2172.0	2162.5	2134.0	2108.8	2080.3	2051.8	2032.9
20°	2200.4	2168.9	2143.5	2112.0	2102.5	2086.6	2058.1	2029.8	1998.1	1966.5	1944.4
22.5°	2121.4	2089.8	2061.3	2029.8	2013.9	1998.1	1969.7	1934.9	1903.3	1878.0	1855.8
25°	2029.8	2001.3	1966.5	1938.0	1919.0	1900.1	1868.5	1840.1	1811.6	1773.7	1751.5
27.5°	1928.5	1893.8	1868.5	1830.6	1811.6	1798.9	1764.2	1726.2	1701.0	1666.1	1640.9
30°	1814.7	1783.1	1754.7	1716.7	1697.8	1685.1	1653.5	1618.7	1593.4	1558.7	1533.3
32.5°	1694.6	1659.8	1625.1	1599.7	1577.6	1565.0	1530.2	1508.1	1476.5	1448.0	1419.6
35°	1565.0	1530.2	1505.0	1470.1	1457.5	1444.8	1416.4	1387.9	1359.5	1334.2	1312.0
37.5°	1425.9	1400.6	1372.2	1346.8	1337.3	1324.7	1289.9	1264.6	1242.4	1217.2	1198.2
40°	1289.9	1267.8	1248.8	1223.6	1207.7	1198.2	1173.0	1150.8	1125.5	1109.7	1090.8
42.5°	1166.7	1141.3	1122.3	1103.4	1087.6	1078.1	1055.9	1040.2	1021.2	1005.4	983.2
45°	1037.0	1024.4	1002.2	986.4	976.9	964.3	948.5	929.5	913.6	901.1	885.3
47.5°	923.2	910.5	894.8	875.8	869.4	859.9	844.1	831.5	818.9	806.2	790.4
50°	818.9	803.0	790.4	777.7	771.5	762.0	746.1	739.8	730.3	717.6	708.1
52.5°	724.0	711.3	698.8	682.9	679.8	673.4	663.9	651.2	641.7	635.5	629.2
55°	638.6	626.0	616.5	603.9	600.7	594.4	581.7	575.4	569.1	562.8	556.5
57.5°	562.8	550.1	537.5	531.1	524.8	518.5	515.3	505.8	499.6	496.4	490.1
60°	493.2	480.6	471.1	461.6	458.4	455.2	448.9	442.6	436.2	430.0	426.9
62.5°	426.9	414.2	407.9	401.5	395.2	395.2	388.8	382.5	376.2	373.0	366.8
65°	366.8	360.5	351.0	341.5	338.3	338.3	328.8	325.6	322.5	316.1	309.8
67.5°	309.8	303.5	294.1	290.9	287.7	284.6	281.4	275.1	268.7	265.6	259.2
70°	259.2	252.9	246.6	243.4	240.2	237.1	230.8	227.7	221.3	218.2	215.0
72.5°	208.7	205.5	199.2	196.0	192.8	189.7	186.5	183.3	177.0	173.8	170.7
75°	167.6	164.5	158.1	155.0	151.8	151.8	148.6	142.3	139.1	139.1	136.0
77.5°	126.4	123.3	120.1	116.9	113.8	113.8	110.6	107.4	104.3	104.3	101.1
80°	91.7	88.6	85.4	85.4	85.4	82.2	79.1	79.1	75.9	75.9	72.7
82.5°	60.1	60.1	56.9	56.9	56.9	53.7	53.7	50.6	50.6	50.6	50.6
85°	34.7	34.7	34.7	31.7	31.7	31.7	31.7	31.7	31.7	28.5	31.7
87.5°	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	12.7	12.7	12.7
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°	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0
2.5°	2317.4	2314.3	2308.0	2308.0	2301.7	2301.7	2298.5	2295.3	2292.2	2289.0	2285.8
5°	2295.3	2282.7	2276.3	2273.2	2266.8	2263.7	2254.2	2247.9	2244.8	2238.4	2232.1
7.5°	2254.2	2241.6	2228.9	2225.8	2222.6	2209.9	2200.4	2190.9	2184.6	2178.4	2172.0
10°	2206.8	2194.1	2178.4	2172.0	2165.7	2149.9	2137.2	2127.7	2115.0	2102.5	2099.3
12.5°	2149.9	2130.9	2112.0	2105.7	2096.2	2080.3	2067.6	2051.8	2042.4	2026.6	2023.4
15°	2083.5	2061.3	2045.6	2029.8	2023.4	2007.6	1985.4	1972.9	1953.9	1947.5	1931.7
17.5°	2004.4	1982.3	1960.2	1953.9	1944.4	1922.2	1900.1	1884.3	1865.3	1855.8	1846.3
20°	1922.2	1893.8	1871.6	1865.3	1852.6	1833.8	1811.6	1795.7	1779.9	1761.0	1751.5
22.5°	1827.4	1795.7	1776.9	1761.0	1757.9	1735.7	1710.5	1697.8	1685.1	1669.3	1656.6
25°	1723.0	1694.6	1672.5	1659.8	1653.5	1634.6	1615.6	1599.7	1580.7	1571.4	1555.5
27.5°	1615.6	1596.6	1568.2	1555.5	1546.0	1530.2	1508.1	1498.6	1479.6	1467.0	1457.5
30°	1511.2	1482.8	1467.0	1451.1	1441.7	1425.9	1406.9	1397.4	1381.6	1369.0	1359.5
32.5°	1397.4	1378.4	1356.3	1350.0	1337.3	1321.5	1308.8	1293.1	1280.4	1267.8	1264.6
35°	1293.1	1267.8	1245.6	1239.4	1229.9	1214.1	1207.7	1198.2	1182.4	1179.2	1166.7
37.5°	1179.2	1166.7	1141.3	1131.8	1128.7	1116.0	1103.4	1097.1	1087.6	1078.1	1074.9
40°	1071.8	1055.9	1043.3	1033.9	1027.5	1018.0	1005.4	1002.2	995.9	983.2	980.0
42.5°	970.7	954.8	942.2	939.0	929.5	920.0	913.6	904.3	901.1	897.9	891.6
45°	872.6	863.1	850.4	847.3	844.1	831.5	825.2	818.9	812.5	809.4	803.0
47.5°	784.0	774.5	765.1	762.0	755.6	752.5	743.0	739.8	730.3	727.1	724.0
50°	698.8	692.4	686.1	682.9	676.6	673.4	667.1	660.8	654.4	651.2	648.1
52.5°	622.9	616.5	610.2	607.0	603.9	597.5	591.2	584.9	581.7	578.5	575.4
55°	550.1	543.8	540.6	537.5	534.3	531.1	521.6	518.5	515.3	512.1	505.8
57.5°	483.7	477.4	471.1	471.1	467.9	464.7	458.4	452.1	452.1	445.7	439.4
60°	423.7	417.4	411.0	407.9	404.7	398.4	395.2	392.0	388.8	385.7	379.3
62.5°	360.5	357.3	351.0	351.0	344.6	341.5	338.3	335.1	332.0	325.6	322.5
65°	306.6	303.5	297.2	294.1	294.1	290.9	284.6	281.4	278.2	278.2	275.1
67.5°	256.1	252.9	246.6	243.4	243.4	240.2	237.1	237.1	234.0	230.8	234.0
70°	211.8	205.5	205.5	202.3	202.3	199.2	196.0	196.0	196.0	199.2	199.2
72.5°	167.6	164.5	161.3	161.3	161.3	161.3	158.1	158.1	161.3	164.5	164.5
75°	132.8	129.6	129.6	129.6	126.4	126.4	129.6	129.6	132.8	132.8	132.8
77.5°	98.1	98.1	98.1	98.1	98.1	98.1	101.1	101.1	104.3	104.3	104.3
80°	72.7	72.7	72.7	72.7	72.7	75.9	75.9	75.9	75.9	75.9	79.1
82.5°	50.6	50.6	50.6	50.6	50.6	50.6	50.6	53.7	53.7	53.7	53.7
85°	28.5	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
87.5°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
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: P584743

CATALOG NUMBER: HC845D010-HM82555930-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0	2330.0
2.5°	2282.7	2282.7	2282.7	2285.8	2279.5	2279.5	2279.5	2279.5
5°	2228.9	2225.8	2222.6	2225.8	2219.4	2219.4	2216.3	2216.3
7.5°	2162.5	2159.4	2156.2	2156.2	2149.9	2149.9	2146.7	2143.5
10°	2089.8	2083.5	2086.6	2080.3	2077.1	2074.0	2070.8	2067.6
12.5°	2010.8	2004.4	2001.3	1994.9	1988.6	1985.4	1988.6	1982.3
15°	1925.4	1915.9	1912.7	1906.5	1900.1	1897.0	1897.0	1893.8
17.5°	1830.6	1824.2	1821.1	1814.7	1811.6	1805.2	1802.1	1798.9
20°	1742.0	1726.2	1729.4	1723.0	1719.9	1707.3	1707.3	1710.5
22.5°	1644.1	1634.6	1628.2	1621.9	1618.7	1612.4	1612.4	1609.2
25°	1546.0	1536.5	1533.3	1527.0	1523.8	1517.5	1514.3	1514.3
27.5°	1451.1	1438.6	1438.6	1432.2	1425.9	1422.7	1419.6	1416.4
30°	1350.0	1340.5	1337.3	1337.3	1334.2	1334.2	1324.7	1327.8
32.5°	1255.1	1248.8	1245.6	1239.4	1239.4	1236.2	1236.2	1226.7
35°	1160.3	1150.8	1154.0	1147.7	1144.5	1141.3	1144.5	1141.3
37.5°	1068.6	1062.3	1062.3	1055.9	1055.9	1052.8	1049.6	1055.9
40°	976.9	973.7	970.7	967.5	970.7	967.5	961.2	964.3
42.5°	885.3	885.3	882.1	882.1	878.9	878.9	878.9	878.9
45°	803.0	799.9	799.9	796.7	796.7	796.7	796.7	793.5
47.5°	720.8	717.6	717.6	717.6	714.5	714.5	711.3	714.5
50°	641.7	641.7	638.6	638.6	641.7	638.6	635.5	635.5
52.5°	569.1	569.1	566.0	566.0	562.8	559.6	562.8	562.8
55°	502.7	499.6	496.4	496.4	493.2	490.1	490.1	493.2
57.5°	439.4	436.2	433.2	433.2	426.9	423.7	423.7	423.7
60°	379.3	373.0	373.0	369.8	369.8	366.8	366.8	366.8
62.5°	322.5	319.3	319.3	319.3	319.3	316.1	316.1	316.1
65°	275.1	275.1	275.1	278.2	278.2	281.4	281.4	281.4
67.5°	237.1	240.2	240.2	240.2	243.4	243.4	243.4	240.2
70°	202.3	202.3	202.3	205.5	205.5	205.5	205.5	205.5
72.5°	167.6	167.6	167.6	167.6	167.6	167.6	167.6	167.6
75°	132.8	136.0	136.0	136.0	132.8	136.0	136.0	132.8
77.5°	104.3	104.3	104.3	104.3	104.3	104.3	104.3	104.3
80°	79.1	79.1	79.1	79.1	79.1	79.1	79.1	79.1
82.5°	53.7	53.7	53.7	53.7	53.7	53.7	53.7	53.7
85°	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
87.5°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
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)