

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: P584693

Luminaire Tested: **HC845D010-HM82555835-81WWWB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584693  
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-HM82555835-81WWWB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4827.0 lumens  
Efficiency: N/A  
Efficacy: 109.7 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

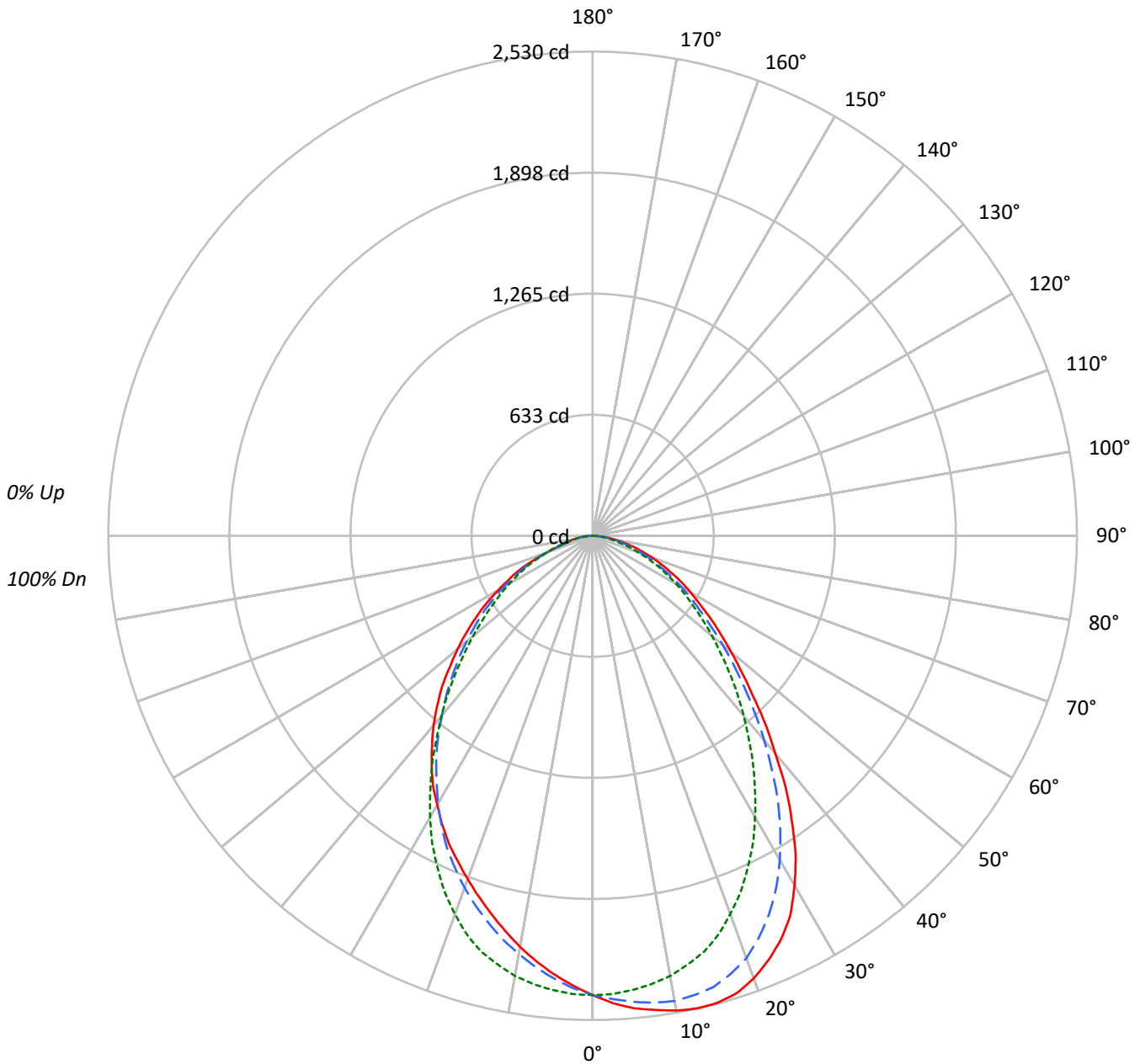
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	74007	74007	74007
5°	76717	73761	71232
10°	78887	73120	68317
15°	80647	71829	65301
20°	80768	69024	62648
25°	79222	65187	60434
30°	75137	60450	57779
35°	68275	55055	55183
40°	59693	49404	52012
45°	51738	44006	48467
50°	45301	39088	44159
55°	40321	34639	39956
60°	36375	31114	35116
65°	32834	27362	30594
70°	29509	23054	22747
75°	25997	18276	17061
80°	21789	15148	16355
85°	16877	13268	14471



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	226.4	4.7
10°-20°	637.7	13.2
20°-30°	911.4	18.9
30°-40°	968.4	20.1
40°-50°	833.7	17.3
50°-60°	623.3	12.9
60°-70°	397.6	8.2
70°-80°	180.9	3.7
80°-90°	47.5	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°	1775.5	36.8
0°-40°	2743.9	56.8
0°-60°	4201.0	87.0
0°-90°	4827.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4827.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2400	2400	2400	2400	2400	
5°	2478	2444	2383	2322	2301	238
15°	2526	2441	2250	2097	2046	712
25°	2328	2182	1916	1800	1776	1066
35°	1814	1688	1462	1425	1466	1129
45°	1186	1122	1009	1036	1111	922
55°	750	689	644	699	743	674
65°	450	399	375	392	419	449
75°	218	187	153	140	143	232
85°	48	41	38	41	41	57
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°	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0
2.5°	2444.3	2437.5	2440.9	2437.5	2440.9	2440.9	2434.1	2434.1	2434.1	2434.1	2423.9
5°	2478.4	2475.0	2475.0	2471.6	2468.2	2471.6	2468.2	2464.8	2457.9	2454.5	2444.3
7.5°	2498.8	2498.8	2498.8	2498.8	2495.4	2492.0	2488.6	2481.8	2475.0	2468.2	2461.3
10°	2519.4	2522.8	2519.4	2515.9	2512.4	2505.6	2502.2	2495.4	2485.2	2475.0	2468.2
12.5°	2529.6	2529.6	2526.2	2526.2	2519.4	2515.9	2505.6	2495.4	2485.2	2475.0	2457.9
15°	2526.2	2526.2	2522.8	2519.4	2509.0	2505.6	2498.8	2488.6	2471.6	2457.9	2440.9
17.5°	2505.6	2502.2	2495.4	2495.4	2481.8	2478.4	2471.6	2457.9	2440.9	2420.5	2400.0
20°	2461.3	2461.3	2457.9	2454.5	2440.9	2430.7	2423.9	2406.8	2393.2	2369.3	2348.8
22.5°	2400.0	2406.8	2400.0	2393.2	2376.1	2372.7	2362.5	2342.0	2321.6	2294.3	2270.5
25°	2328.4	2325.0	2321.6	2314.8	2301.2	2294.3	2280.7	2260.3	2239.7	2209.1	2181.8
27.5°	2236.3	2222.7	2222.7	2209.1	2198.9	2188.6	2181.8	2161.4	2134.0	2110.2	2076.1
30°	2110.2	2113.6	2096.6	2093.2	2076.1	2069.3	2055.7	2035.3	2011.3	1984.1	1956.8
32.5°	1973.8	1963.6	1963.6	1950.0	1936.4	1926.2	1922.8	1898.9	1878.4	1851.1	1823.9
35°	1813.7	1813.7	1803.4	1800.0	1786.4	1779.6	1769.4	1755.6	1731.8	1708.0	1687.5
37.5°	1656.9	1649.9	1646.5	1639.7	1629.5	1619.3	1619.3	1595.4	1592.0	1564.8	1537.5
40°	1482.9	1489.8	1482.9	1472.7	1469.3	1462.5	1459.1	1445.5	1435.3	1411.4	1394.3
42.5°	1336.4	1329.6	1329.6	1326.2	1312.5	1312.5	1305.7	1298.9	1281.9	1275.1	1254.5
45°	1186.4	1193.2	1183.0	1186.4	1172.8	1172.8	1172.8	1159.0	1145.4	1135.2	1121.6
47.5°	1056.9	1060.3	1060.3	1050.0	1046.6	1046.6	1039.7	1032.9	1022.7	1009.1	998.8
50°	944.3	947.8	940.9	937.5	930.7	927.3	927.3	913.6	906.8	893.2	886.3
52.5°	842.1	842.1	838.6	838.6	828.4	828.4	821.6	811.4	804.6	797.8	780.6
55°	750.0	750.0	746.6	743.2	743.2	733.0	729.5	719.3	712.5	698.9	688.7
57.5°	661.3	664.7	661.3	657.9	654.5	651.1	644.3	634.1	627.3	617.0	610.2
60°	589.8	589.8	586.4	583.0	576.2	572.8	569.4	562.5	552.2	545.4	535.2
62.5°	521.6	518.2	514.8	511.3	504.5	504.5	497.7	490.9	480.7	473.9	467.1
65°	450.0	450.0	446.6	446.6	443.2	436.4	433.0	429.6	415.9	412.5	398.8
67.5°	385.2	388.6	381.8	381.8	375.0	375.0	371.6	361.4	358.0	351.1	344.3
70°	327.3	327.3	327.3	323.9	317.1	313.7	310.3	303.5	300.1	293.1	286.3
72.5°	269.3	269.3	265.9	265.9	262.5	259.1	255.7	248.9	248.9	242.0	235.2
75°	218.2	218.2	214.8	211.4	208.0	208.0	204.6	201.2	194.4	191.0	187.4
77.5°	167.0	167.0	167.0	163.6	160.2	160.2	160.2	153.4	146.6	146.6	143.2
80°	122.7	122.7	119.3	119.3	115.9	115.9	115.9	112.5	109.1	105.7	102.3
82.5°	81.9	81.9	81.9	81.9	78.4	78.4	78.4	75.0	71.6	71.6	71.6
85°	47.7	47.7	47.7	47.7	44.3	44.3	44.3	44.3	44.3	40.9	40.9
87.5°	20.4	17.0	20.4	17.0	20.4	17.0	20.4	17.0	17.0	17.0	17.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0
2.5°	2427.3	2423.9	2420.5	2417.1	2417.1	2413.7	2406.8	2403.4	2400.0	2396.6	2396.6
5°	2440.9	2437.5	2430.7	2423.9	2420.5	2413.7	2406.8	2400.0	2393.2	2382.9	2379.5
7.5°	2451.1	2440.9	2434.1	2420.5	2417.1	2410.3	2400.0	2389.8	2376.1	2362.5	2352.2
10°	2451.1	2437.5	2427.3	2410.3	2403.4	2396.6	2382.9	2365.9	2348.8	2335.2	2318.2
12.5°	2444.3	2427.3	2410.3	2393.2	2382.9	2372.7	2352.2	2335.2	2314.8	2294.3	2280.7
15°	2420.5	2400.0	2379.5	2359.1	2348.8	2335.2	2314.8	2290.9	2270.5	2250.0	2226.1
17.5°	2376.1	2355.7	2331.8	2308.0	2294.3	2284.1	2253.5	2236.3	2205.7	2185.2	2164.8
20°	2318.2	2294.3	2263.7	2239.7	2222.7	2212.5	2188.6	2158.0	2134.0	2103.4	2082.9
22.5°	2243.1	2212.5	2181.8	2158.0	2141.0	2127.2	2096.6	2065.9	2045.5	2018.1	1994.3
25°	2154.6	2123.8	2093.2	2059.1	2042.1	2028.4	2001.1	1973.8	1946.6	1915.9	1895.5
27.5°	2048.9	2014.7	1987.5	1956.8	1939.8	1919.3	1888.6	1861.3	1834.1	1813.7	1786.4
30°	1933.0	1895.5	1868.2	1837.5	1820.5	1803.4	1772.8	1745.4	1721.6	1697.7	1684.1
32.5°	1793.2	1766.0	1738.6	1708.0	1694.3	1684.1	1653.5	1626.1	1598.9	1578.4	1568.2
35°	1660.3	1629.5	1605.7	1578.4	1561.4	1551.2	1523.8	1500.0	1486.3	1462.5	1448.9
37.5°	1520.4	1496.6	1469.3	1442.1	1431.8	1421.6	1401.1	1377.2	1356.8	1339.8	1333.0
40°	1373.8	1353.4	1329.6	1312.5	1302.3	1292.1	1275.1	1257.9	1244.3	1227.3	1220.5
42.5°	1234.1	1220.5	1200.0	1179.6	1169.4	1166.0	1145.4	1131.8	1125.0	1118.2	1111.4
45°	1107.9	1087.5	1073.9	1060.3	1050.0	1043.1	1032.9	1022.7	1015.9	1009.1	1002.3
47.5°	985.2	968.2	954.6	944.3	934.1	930.7	923.9	913.6	906.8	906.8	906.8
50°	872.7	859.1	845.5	838.6	835.2	828.4	821.6	818.2	814.8	814.8	814.8
52.5°	773.8	760.2	750.0	743.2	743.2	736.4	729.5	726.1	726.1	726.1	726.1
55°	681.9	671.5	664.7	657.9	651.1	647.7	647.7	647.7	644.3	644.3	647.7
57.5°	600.0	593.2	583.0	576.2	572.8	572.8	569.4	565.9	569.4	572.8	576.2
60°	525.0	518.2	514.8	504.5	504.5	504.5	501.1	501.1	501.1	504.5	507.9
62.5°	456.8	453.4	446.6	443.2	439.8	439.8	436.4	436.4	436.4	436.4	439.8
65°	395.4	388.6	381.8	381.8	381.8	378.4	378.4	371.6	375.0	375.0	371.6
67.5°	337.5	330.7	327.3	323.9	320.5	320.5	317.1	313.7	310.3	310.3	310.3
70°	282.9	276.1	276.1	269.3	269.3	265.9	262.5	262.5	259.1	255.7	252.3
72.5°	228.4	225.0	221.6	218.2	218.2	218.2	214.8	211.4	208.0	204.6	197.8
75°	180.6	180.6	173.8	170.4	170.4	167.0	163.6	160.2	156.8	153.4	150.0
77.5°	139.8	136.4	129.5	126.1	126.1	126.1	122.7	119.3	115.9	112.5	109.1
80°	102.3	98.9	95.5	92.1	92.1	92.1	88.7	88.7	85.3	85.3	85.3
82.5°	68.2	68.2	64.7	64.7	64.7	64.7	61.3	61.3	61.3	61.3	61.3
85°	40.9	40.9	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5
87.5°	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
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°	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0
2.5°	2389.8	2389.8	2382.9	2379.5	2376.1	2379.5	2372.7	2369.3	2365.9	2365.9	2362.5
5°	2369.3	2365.9	2352.2	2348.8	2345.4	2342.0	2335.2	2328.4	2321.6	2318.2	2314.8
7.5°	2342.0	2331.8	2318.2	2314.8	2311.4	2301.2	2290.9	2284.1	2273.9	2270.5	2263.7
10°	2304.6	2290.9	2280.7	2270.5	2263.7	2253.5	2243.1	2232.9	2219.3	2215.9	2205.7
12.5°	2260.3	2243.1	2222.7	2219.3	2209.1	2195.5	2181.8	2171.6	2161.4	2154.6	2144.4
15°	2205.7	2188.6	2168.2	2158.0	2147.8	2137.4	2120.4	2106.8	2096.6	2086.4	2076.1
17.5°	2141.0	2120.4	2103.4	2093.2	2086.4	2069.3	2055.7	2038.7	2028.4	2018.1	2007.9
20°	2062.5	2045.5	2021.5	2011.3	2007.9	1994.3	1977.3	1970.4	1956.8	1946.6	1939.8
22.5°	1973.8	1956.8	1936.4	1929.6	1915.9	1909.1	1892.0	1885.2	1878.4	1868.2	1864.7
25°	1875.0	1857.9	1840.9	1837.5	1827.3	1820.5	1810.2	1800.0	1800.0	1789.8	1789.8
27.5°	1772.8	1755.6	1742.0	1735.2	1731.8	1725.0	1714.8	1711.4	1708.0	1704.5	1704.5
30°	1663.7	1643.1	1636.3	1632.9	1629.5	1622.7	1619.3	1612.5	1615.9	1619.3	1615.9
32.5°	1547.8	1540.9	1527.2	1520.4	1523.8	1520.4	1513.6	1520.4	1517.0	1523.8	1527.2
35°	1435.3	1428.4	1421.6	1421.6	1414.8	1414.8	1414.8	1418.2	1425.0	1428.4	1435.3
37.5°	1326.2	1315.9	1312.5	1309.1	1312.5	1312.5	1312.5	1319.3	1326.2	1333.0	1343.2
40°	1210.2	1203.4	1203.4	1203.4	1203.4	1213.6	1210.2	1217.0	1223.9	1234.1	1244.3
42.5°	1101.1	1101.1	1104.5	1104.5	1104.5	1104.5	1111.4	1121.6	1131.8	1142.0	1152.2
45°	998.8	998.8	998.8	1005.7	1005.7	1009.1	1022.7	1029.5	1036.3	1046.6	1056.9
47.5°	903.4	903.4	906.8	910.2	913.6	920.5	927.3	937.5	947.8	954.6	964.8
50°	814.8	818.2	825.0	831.8	831.8	835.2	845.5	852.3	859.1	869.3	872.7
52.5°	729.5	736.4	743.2	746.6	750.0	756.8	760.2	770.4	773.8	784.0	787.6
55°	651.1	654.5	664.7	668.1	668.1	674.9	681.9	688.7	698.9	698.9	705.7
57.5°	579.6	583.0	589.8	593.2	589.8	600.0	603.4	610.2	613.6	620.4	623.9
60°	507.9	514.8	518.2	518.2	521.6	525.0	531.8	531.8	538.6	545.4	545.4
62.5°	439.8	443.2	446.6	450.0	453.4	450.0	460.3	460.3	467.1	470.5	477.3
65°	375.0	378.4	378.4	381.8	381.8	385.2	385.2	388.6	392.0	398.8	402.2
67.5°	310.3	310.3	310.3	313.7	310.3	313.7	313.7	317.1	317.1	323.9	327.3
70°	252.3	248.9	245.5	245.5	245.5	245.5	242.0	245.5	245.5	248.9	248.9
72.5°	194.4	191.0	187.4	184.0	184.0	180.6	177.2	180.6	180.6	184.0	184.0
75°	146.6	139.8	139.8	139.8	136.4	136.4	136.4	139.8	139.8	139.8	143.2
77.5°	109.1	109.1	105.7	105.7	105.7	109.1	109.1	112.5	112.5	112.5	112.5
80°	81.9	85.3	85.3	85.3	85.3	88.7	88.7	88.7	88.7	92.1	92.1
82.5°	61.3	61.3	61.3	61.3	64.7	64.7	64.7	64.7	64.7	64.7	64.7
85°	37.5	40.9	40.9	37.5	40.9	40.9	40.9	40.9	40.9	40.9	40.9
87.5°	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
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: P584693

CATALOG NUMBER: HC845D010-HM82555835-81WWWB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0	2400.0
2.5°	2359.1	2359.1	2359.1	2359.1	2355.7	2355.7	2355.7	2352.2
5°	2308.0	2308.0	2308.0	2301.2	2304.6	2304.6	2297.7	2301.2
7.5°	2256.9	2253.5	2250.0	2250.0	2246.6	2243.1	2239.7	2243.1
10°	2198.9	2188.6	2188.6	2185.2	2185.2	2178.4	2178.4	2181.8
12.5°	2134.0	2127.2	2127.2	2123.8	2120.4	2117.0	2113.6	2113.6
15°	2069.3	2062.5	2059.1	2055.7	2052.3	2045.5	2048.9	2045.5
17.5°	2004.5	1994.3	1994.3	1990.9	1987.5	1980.7	1980.7	1977.3
20°	1929.6	1926.2	1919.3	1922.8	1919.3	1912.5	1909.1	1909.1
22.5°	1854.5	1854.5	1851.1	1851.1	1847.7	1844.3	1840.9	1840.9
25°	1783.0	1779.6	1783.0	1783.0	1772.8	1772.8	1772.8	1776.2
27.5°	1701.1	1704.5	1701.1	1701.1	1701.1	1701.1	1704.5	1701.1
30°	1619.3	1619.3	1619.3	1622.7	1629.5	1626.1	1626.1	1622.7
32.5°	1530.6	1534.0	1534.0	1537.5	1540.9	1547.8	1547.8	1551.2
35°	1442.1	1448.9	1452.3	1448.9	1459.1	1459.1	1465.9	1465.9
37.5°	1350.0	1353.4	1360.2	1363.6	1370.4	1373.8	1377.2	1377.2
40°	1251.1	1264.7	1268.1	1271.5	1281.9	1281.9	1285.3	1292.1
42.5°	1159.0	1172.8	1176.2	1179.6	1186.4	1196.6	1193.2	1200.0
45°	1070.5	1080.7	1084.1	1087.5	1097.7	1101.1	1101.1	1111.4
47.5°	975.0	981.8	985.2	992.0	998.8	1005.7	1012.5	1009.1
50°	879.5	889.7	896.6	900.0	910.2	913.6	917.1	920.5
52.5°	794.4	801.2	804.6	808.0	818.2	821.6	825.0	831.8
55°	712.5	715.9	722.7	719.3	729.5	733.0	736.4	743.2
57.5°	630.7	634.1	637.5	637.5	644.3	651.1	654.5	657.9
60°	552.2	559.1	562.5	562.5	562.5	569.4	569.4	569.4
62.5°	480.7	480.7	484.1	484.1	490.9	490.9	490.9	490.9
65°	405.6	409.1	412.5	412.5	419.3	415.9	422.7	419.3
67.5°	327.3	327.3	334.1	334.1	330.7	334.1	334.1	334.1
70°	248.9	248.9	252.3	252.3	252.3	252.3	252.3	252.3
72.5°	184.0	184.0	184.0	187.4	184.0	184.0	187.4	184.0
75°	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2
77.5°	112.5	112.5	115.9	115.9	115.9	115.9	115.9	115.9
80°	92.1	92.1	92.1	92.1	95.5	92.1	92.1	92.1
82.5°	68.2	64.7	68.2	64.7	68.2	68.2	68.2	68.2
85°	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9
87.5°	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
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)