

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: P584692

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584692  
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-HM82555835-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4636.1 lumens  
Efficiency: N/A  
Efficacy: 105.4 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

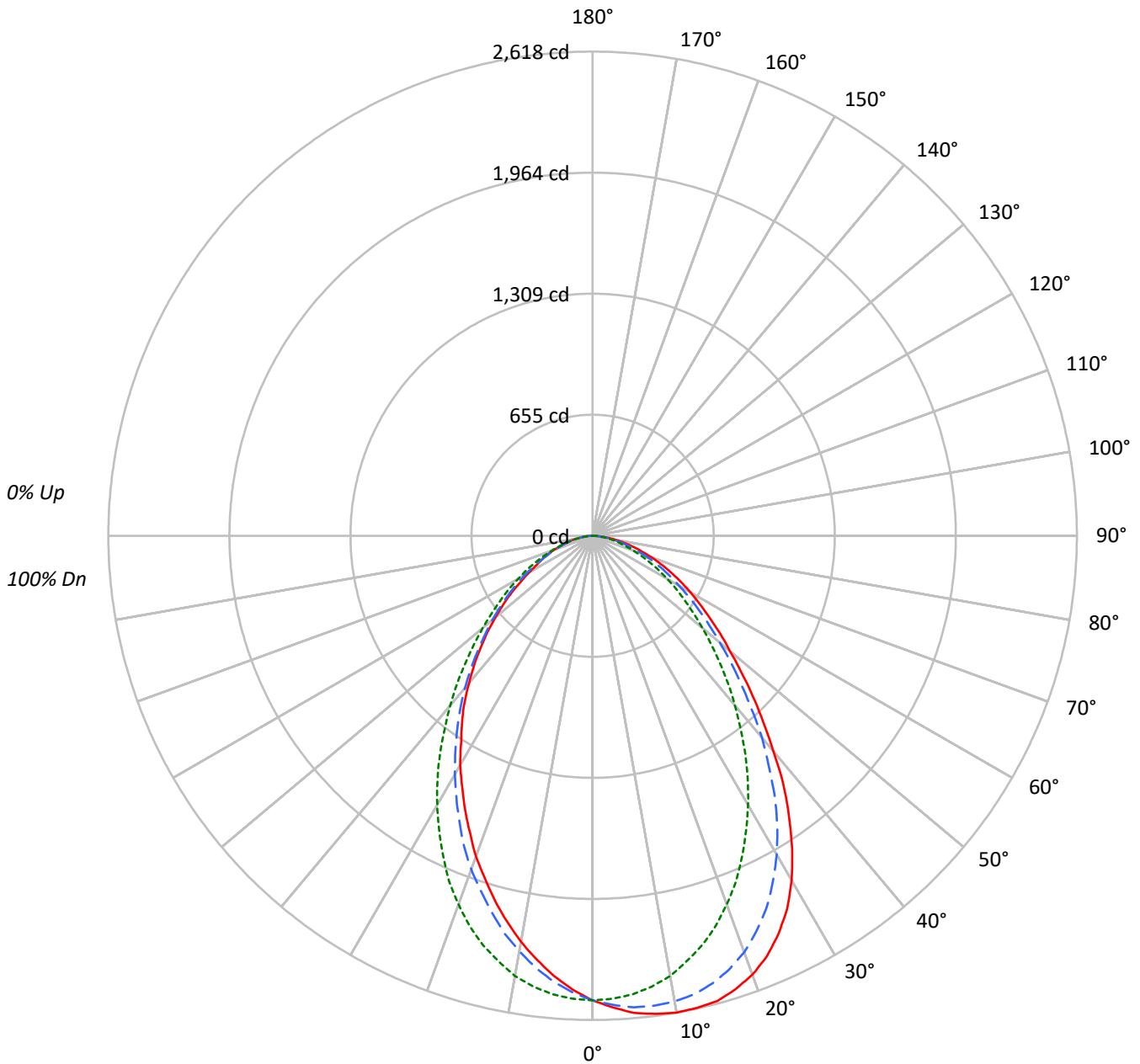
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					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	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°	77464	77464	77464
5°	80187	77020	73962
10°	81965	75669	69801
15°	83134	73122	65179
20°	82882	69572	60511
25°	80831	65057	55551
30°	76579	59834	50971
35°	69672	54144	46321
40°	61194	48156	41848
45°	53364	42362	37312
50°	46438	37117	32866
55°	41412	32617	28585
60°	37626	28591	24385
65°	33827	24874	22130
70°	30122	21205	19979
75°	26402	17871	17049
80°	22393	14526	15130
85°	16877	10862	12065



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	235.3	5.1
10°-20°	648.3	14.0
20°-30°	899.9	19.4
30°-40°	930.4	20.1
40°-50°	779.0	16.8
50°-60°	565.5	12.2
60°-70°	356.9	7.7
70°-80°	176.8	3.8
80°-90°	43.9	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°	1783.5	38.5
0°-40°	2713.9	58.5
0°-60°	4058.5	87.5
0°-90°	4636.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4636.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2512	2512	2512	2512	2512	
5°	2590	2560	2488	2420	2389	248
15°	2604	2505	2290	2106	2042	733
25°	2376	2222	1912	1704	1633	1089
35°	1851	1714	1438	1275	1230	1153
45°	1224	1135	971	876	856	946
55°	770	702	607	556	532	695
65°	464	406	341	300	303	462
75°	222	184	150	143	143	238
85°	48	38	31	34	34	58
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°	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1
2.5°	2552.9	2552.9	2556.3	2552.9	2552.9	2552.9	2549.5	2549.5	2546.1	2546.1	2539.3
5°	2590.5	2583.6	2590.5	2583.6	2583.6	2583.6	2580.2	2573.4	2570.0	2563.1	2559.7
7.5°	2607.5	2604.1	2604.1	2600.7	2600.7	2597.3	2593.9	2590.5	2576.8	2573.4	2563.1
10°	2617.7	2614.3	2614.3	2610.9	2604.1	2604.1	2597.3	2593.9	2576.8	2570.0	2556.3
12.5°	2614.3	2614.3	2614.3	2610.9	2600.7	2597.3	2590.5	2580.2	2566.6	2552.9	2539.3
15°	2604.1	2604.1	2597.3	2593.9	2583.6	2576.8	2573.4	2556.3	2542.7	2525.7	2505.3
17.5°	2570.0	2570.0	2566.6	2559.7	2549.5	2542.7	2535.9	2518.9	2505.3	2478.0	2457.6
20°	2525.7	2522.3	2518.9	2508.7	2498.4	2495.0	2484.8	2461.0	2443.8	2423.4	2396.2
22.5°	2461.0	2457.6	2454.2	2447.3	2430.2	2423.4	2416.6	2399.6	2368.9	2348.5	2314.3
25°	2375.7	2375.7	2368.9	2358.7	2341.7	2334.9	2324.5	2307.5	2280.3	2249.6	2222.4
27.5°	2276.9	2273.5	2263.2	2256.4	2242.8	2232.6	2215.6	2195.0	2167.8	2143.9	2109.9
30°	2150.7	2150.7	2143.9	2133.7	2116.7	2109.9	2096.3	2072.3	2045.1	2014.4	1990.6
32.5°	2007.6	2007.6	1997.4	1990.6	1980.4	1963.3	1959.8	1932.6	1908.7	1884.9	1857.7
35°	1850.8	1854.2	1847.4	1833.8	1816.7	1816.7	1809.9	1786.0	1758.8	1734.9	1714.5
37.5°	1694.0	1683.8	1680.4	1673.5	1663.3	1649.7	1642.9	1632.7	1608.8	1591.8	1561.0
40°	1520.2	1523.6	1516.8	1510.0	1506.6	1496.3	1492.9	1475.9	1458.9	1438.3	1424.7
42.5°	1363.4	1363.4	1363.4	1356.6	1349.8	1339.6	1336.2	1325.8	1305.4	1291.8	1271.4
45°	1223.7	1213.5	1213.5	1210.1	1206.5	1199.7	1189.5	1182.7	1169.1	1158.9	1135.0
47.5°	1087.3	1090.8	1087.3	1083.9	1073.6	1070.2	1066.8	1053.2	1039.6	1029.3	1012.3
50°	968.0	974.9	968.0	968.0	961.2	957.8	951.0	940.7	930.5	913.4	896.4
52.5°	869.2	869.2	865.8	862.4	852.1	845.3	841.9	838.5	821.5	807.8	794.1
55°	770.3	773.7	773.7	763.5	760.1	753.3	749.9	739.7	732.8	712.4	702.2
57.5°	685.1	681.7	685.1	678.3	671.4	664.6	661.2	654.4	644.2	630.6	616.9
60°	610.1	603.3	603.3	599.9	593.1	589.7	582.9	572.7	562.5	548.7	538.5
62.5°	535.1	531.7	528.3	524.9	518.1	514.7	511.3	501.1	490.8	480.6	470.4
65°	463.6	463.6	460.2	453.4	450.0	446.6	443.2	436.2	422.6	415.8	405.6
67.5°	398.8	395.4	395.4	388.6	381.7	378.3	378.3	371.5	361.3	351.1	344.3
70°	334.1	337.5	334.1	330.7	323.7	323.7	316.9	313.5	299.9	296.5	286.3
72.5°	276.1	276.1	272.7	272.7	265.9	262.4	262.4	255.6	248.8	242.0	235.2
75°	221.6	221.6	221.6	218.2	214.8	208.0	208.0	204.5	197.7	190.8	184.0
77.5°	173.8	170.4	170.4	167.0	163.6	160.2	160.2	156.8	150.0	146.5	139.7
80°	126.1	122.7	122.7	122.7	115.9	119.3	115.9	112.5	109.1	105.7	102.3
82.5°	81.8	85.2	85.2	81.8	78.4	78.4	78.4	75.0	75.0	71.6	68.2
85°	47.7	47.7	47.7	47.7	44.3	44.3	44.3	40.9	40.9	40.9	37.5
87.5°	20.4	20.4	20.4	20.4	20.4	20.4	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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1
2.5°	2539.3	2532.5	2529.1	2525.7	2525.7	2522.3	2518.9	2512.1	2512.1	2505.3	2501.8
5°	2552.9	2542.7	2535.9	2529.1	2525.7	2518.9	2512.1	2501.8	2498.4	2488.2	2478.0
7.5°	2556.3	2539.3	2532.5	2518.9	2512.1	2505.3	2491.6	2481.4	2467.8	2457.6	2443.8
10°	2542.7	2529.1	2512.1	2495.0	2491.6	2481.4	2461.0	2447.3	2430.2	2416.6	2396.2
12.5°	2522.3	2501.8	2484.8	2464.4	2454.2	2443.8	2423.4	2403.0	2379.1	2355.3	2334.9
15°	2488.2	2464.4	2440.4	2416.6	2403.0	2392.8	2368.9	2345.1	2321.1	2290.5	2270.1
17.5°	2437.0	2409.8	2385.9	2355.3	2341.7	2331.5	2300.7	2273.5	2242.8	2212.2	2191.6
20°	2372.3	2338.3	2310.9	2276.9	2266.6	2249.6	2219.0	2188.2	2154.2	2120.1	2096.3
22.5°	2287.1	2253.0	2222.4	2188.2	2171.2	2154.2	2123.5	2085.9	2051.9	2024.6	2000.8
25°	2188.2	2157.6	2120.1	2089.3	2068.9	2048.5	2014.4	1983.8	1953.0	1912.1	1888.3
27.5°	2079.1	2041.7	2014.4	1973.5	1953.0	1939.4	1901.9	1861.1	1833.8	1796.2	1769.0
30°	1956.4	1922.4	1891.7	1850.8	1830.3	1816.7	1782.6	1745.2	1717.9	1680.4	1653.1
32.5°	1826.9	1789.4	1752.0	1724.7	1700.8	1687.2	1649.7	1625.9	1591.8	1561.0	1530.4
35°	1687.2	1649.7	1622.5	1585.0	1571.4	1557.6	1527.0	1496.3	1465.7	1438.3	1414.5
37.5°	1537.2	1510.0	1479.3	1452.1	1441.7	1428.1	1390.7	1363.4	1339.6	1312.2	1291.8
40°	1390.7	1366.8	1346.4	1319.0	1302.0	1291.8	1264.5	1240.7	1213.5	1196.3	1175.9
42.5°	1257.7	1230.5	1210.1	1189.5	1172.5	1162.3	1138.4	1121.4	1101.0	1083.9	1060.0
45°	1118.0	1104.4	1080.5	1063.4	1053.2	1039.6	1022.5	1002.1	985.1	971.4	954.4
47.5°	995.3	981.7	964.6	944.1	937.3	927.1	910.0	896.4	882.8	869.2	852.1
50°	882.8	865.8	852.1	838.5	831.7	821.5	804.4	797.6	787.3	773.7	763.5
52.5°	780.5	766.9	753.3	736.2	732.8	726.0	715.8	702.2	692.0	685.1	678.3
55°	688.6	674.8	664.6	651.0	647.6	640.8	627.2	620.4	613.5	606.7	599.9
57.5°	606.7	593.1	579.5	572.7	565.9	558.9	555.5	545.3	538.5	535.1	528.3
60°	531.7	518.1	507.9	497.6	494.2	490.8	484.0	477.2	470.4	463.6	460.2
62.5°	460.2	446.6	439.6	432.8	426.0	426.0	419.2	412.4	405.6	402.2	395.4
65°	395.4	388.6	378.3	368.1	364.7	364.7	354.5	351.1	347.7	340.9	334.1
67.5°	334.1	327.3	316.9	313.5	310.1	306.7	303.3	296.5	289.7	286.3	279.5
70°	279.5	272.7	265.9	262.4	259.0	255.6	248.8	245.4	238.6	235.2	231.8
72.5°	225.0	221.6	214.8	211.4	208.0	204.5	201.1	197.7	190.8	187.4	184.0
75°	180.6	177.2	170.4	167.0	163.6	163.6	160.2	153.4	150.0	150.0	146.5
77.5°	136.3	132.9	129.5	126.1	122.7	122.7	119.3	115.9	112.5	112.5	109.1
80°	98.9	95.5	92.1	92.1	92.1	88.7	85.2	85.2	81.8	81.8	78.4
82.5°	64.7	64.7	61.3	61.3	61.3	57.9	57.9	54.5	54.5	54.5	54.5
85°	37.5	37.5	37.5	34.1	34.1	34.1	34.1	34.1	34.1	30.7	34.1
87.5°	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	13.6	13.6	13.6
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°	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1
2.5°	2498.4	2495.0	2488.2	2488.2	2481.4	2481.4	2478.0	2474.6	2471.2	2467.8	2464.4
5°	2474.6	2461.0	2454.2	2450.7	2443.8	2440.4	2430.2	2423.4	2420.0	2413.2	2406.4
7.5°	2430.2	2416.6	2403.0	2399.6	2396.2	2382.5	2372.3	2362.1	2355.3	2348.5	2341.7
10°	2379.1	2365.5	2348.5	2341.7	2334.9	2317.7	2304.1	2293.9	2280.3	2266.6	2263.2
12.5°	2317.7	2297.3	2276.9	2270.1	2259.8	2242.8	2229.2	2212.2	2201.8	2184.8	2181.4
15°	2246.2	2222.4	2205.2	2188.2	2181.4	2164.4	2140.5	2126.9	2106.5	2099.7	2082.5
17.5°	2161.0	2137.1	2113.3	2106.5	2096.3	2072.3	2048.5	2031.4	2011.0	2000.8	1990.6
20°	2072.3	2041.7	2017.8	2011.0	1997.4	1977.0	1953.0	1936.0	1919.0	1898.5	1888.3
22.5°	1970.1	1936.0	1915.5	1898.5	1895.1	1871.3	1844.0	1830.3	1816.7	1799.7	1786.0
25°	1857.7	1826.9	1803.1	1789.4	1782.6	1762.2	1741.8	1724.7	1704.3	1694.0	1676.9
27.5°	1741.8	1721.3	1690.6	1676.9	1666.7	1649.7	1625.9	1615.6	1595.2	1581.6	1571.4
30°	1629.3	1598.6	1581.6	1564.5	1554.2	1537.2	1516.8	1506.6	1489.5	1475.9	1465.7
32.5°	1506.6	1486.1	1462.3	1455.5	1441.7	1424.7	1411.1	1394.1	1380.4	1366.8	1363.4
35°	1394.1	1366.8	1343.0	1336.2	1325.8	1308.8	1302.0	1291.8	1274.8	1271.4	1257.7
37.5°	1271.4	1257.7	1230.5	1220.3	1216.9	1203.1	1189.5	1182.7	1172.5	1162.3	1158.9
40°	1155.5	1138.4	1124.8	1114.6	1107.8	1097.6	1083.9	1080.5	1073.6	1060.0	1056.6
42.5°	1046.4	1029.3	1015.7	1012.3	1002.1	991.9	985.1	974.9	971.4	968.0	961.2
45°	940.7	930.5	916.9	913.4	910.0	896.4	889.6	882.8	876.0	872.6	865.8
47.5°	845.3	835.1	824.9	821.5	814.6	811.2	801.0	797.6	787.3	783.9	780.5
50°	753.3	746.5	739.7	736.2	729.4	726.0	719.2	712.4	705.6	702.2	698.8
52.5°	671.4	664.6	657.8	654.4	651.0	644.2	637.4	630.6	627.2	623.8	620.4
55°	593.1	586.3	582.9	579.5	576.1	572.7	562.5	558.9	555.5	552.1	545.3
57.5°	521.5	514.7	507.9	507.9	504.5	501.1	494.2	487.4	487.4	480.6	473.8
60°	456.8	450.0	443.2	439.6	436.2	429.4	426.0	422.6	419.2	415.8	409.0
62.5°	388.6	385.2	378.3	378.3	371.5	368.1	364.7	361.3	357.9	351.1	347.7
65°	330.7	327.3	320.3	316.9	316.9	313.5	306.7	303.3	299.9	299.9	296.5
67.5°	276.1	272.7	265.9	262.4	262.4	259.0	255.6	255.6	252.2	248.8	252.2
70°	228.4	221.6	221.6	218.2	218.2	214.8	211.4	211.4	211.4	214.8	214.8
72.5°	180.6	177.2	173.8	173.8	173.8	173.8	170.4	170.4	173.8	177.2	177.2
75°	143.1	139.7	139.7	139.7	136.3	136.3	139.7	139.7	143.1	143.1	143.1
77.5°	105.7	105.7	105.7	105.7	105.7	105.7	109.1	109.1	112.5	112.5	112.5
80°	78.4	78.4	78.4	78.4	78.4	81.8	81.8	81.8	81.8	81.8	85.2
82.5°	54.5	54.5	54.5	54.5	54.5	54.5	54.5	57.9	57.9	57.9	57.9
85°	30.7	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
87.5°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
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: P584692

CATALOG NUMBER: HC845D010-HM82555835-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1	2512.1
2.5°	2461.0	2461.0	2461.0	2464.4	2457.6	2457.6	2457.6	2457.6
5°	2403.0	2399.6	2396.2	2399.6	2392.8	2392.8	2389.4	2389.4
7.5°	2331.5	2327.9	2324.5	2324.5	2317.7	2317.7	2314.3	2310.9
10°	2253.0	2246.2	2249.6	2242.8	2239.4	2236.0	2232.6	2229.2
12.5°	2167.8	2161.0	2157.6	2150.7	2143.9	2140.5	2143.9	2137.1
15°	2075.7	2065.5	2062.1	2055.3	2048.5	2045.1	2045.1	2041.7
17.5°	1973.5	1966.7	1963.3	1956.4	1953.0	1946.2	1942.8	1939.4
20°	1878.1	1861.1	1864.5	1857.7	1854.2	1840.6	1840.6	1844.0
22.5°	1772.4	1762.2	1755.4	1748.6	1745.2	1738.3	1738.3	1734.9
25°	1666.7	1656.5	1653.1	1646.3	1642.9	1636.1	1632.7	1632.7
27.5°	1564.5	1550.8	1550.8	1544.0	1537.2	1533.8	1530.4	1527.0
30°	1455.5	1445.3	1441.7	1441.7	1438.3	1438.3	1428.1	1431.5
32.5°	1353.2	1346.4	1343.0	1336.2	1336.2	1332.8	1332.8	1322.4
35°	1250.9	1240.7	1244.1	1237.3	1233.9	1230.5	1233.9	1230.5
37.5°	1152.1	1145.2	1145.2	1138.4	1138.4	1135.0	1131.6	1138.4
40°	1053.2	1049.8	1046.4	1043.0	1046.4	1043.0	1036.2	1039.6
42.5°	954.4	954.4	951.0	951.0	947.5	947.5	947.5	947.5
45°	865.8	862.4	862.4	859.0	859.0	859.0	859.0	855.6
47.5°	777.1	773.7	773.7	773.7	770.3	770.3	766.9	770.3
50°	692.0	692.0	688.6	688.6	692.0	688.6	685.1	685.1
52.5°	613.5	613.5	610.1	610.1	606.7	603.3	606.7	606.7
55°	541.9	538.5	535.1	535.1	531.7	528.3	528.3	531.7
57.5°	473.8	470.4	467.0	467.0	460.2	456.8	456.8	456.8
60°	409.0	402.2	402.2	398.8	398.8	395.4	395.4	395.4
62.5°	347.7	344.3	344.3	344.3	344.3	340.9	340.9	340.9
65°	296.5	296.5	296.5	299.9	299.9	303.3	303.3	303.3
67.5°	255.6	259.0	259.0	259.0	262.4	262.4	262.4	259.0
70°	218.2	218.2	218.2	221.6	221.6	221.6	221.6	221.6
72.5°	180.6	180.6	180.6	180.6	180.6	180.6	180.6	180.6
75°	143.1	146.5	146.5	146.5	143.1	146.5	146.5	143.1
77.5°	112.5	112.5	112.5	112.5	112.5	112.5	112.5	112.5
80°	85.2	85.2	85.2	85.2	85.2	85.2	85.2	85.2
82.5°	57.9	57.9	57.9	57.9	57.9	57.9	57.9	57.9
85°	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
87.5°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
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)