

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: P593819

Luminaire Tested: **HC850D010-HM82555950-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593819  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC850D010-HM82555950-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4611.8 lumens  
Efficiency: N/A  
Efficacy: 96.1 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

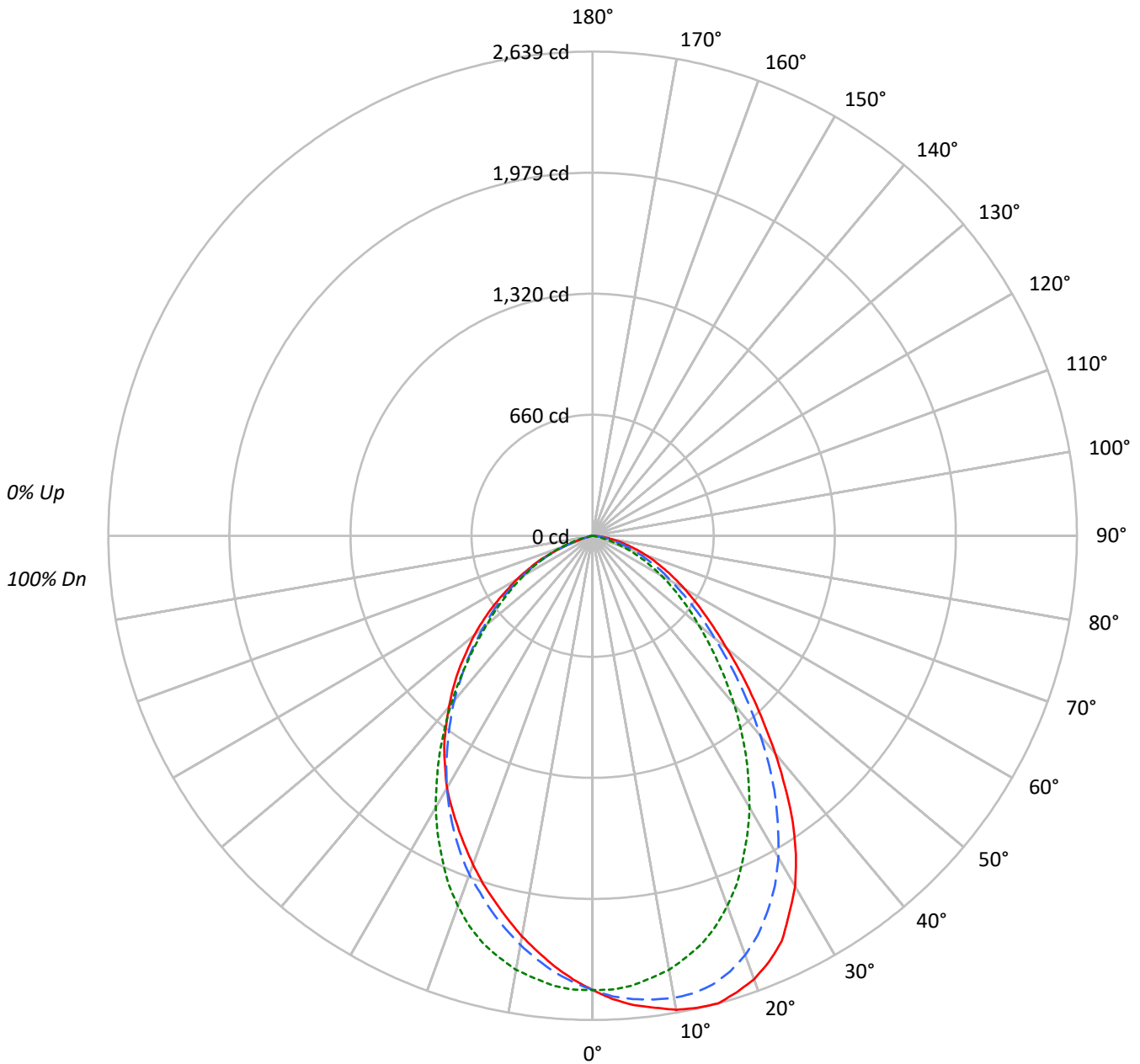
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59			
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47			
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43			
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39			
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35			
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			

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

	0°	90°	180°
0°	76345	76345	76345
5°	79503	76181	72971
10°	82160	75205	69412
15°	84238	73486	65808
20°	84401	70438	62543
25°	82981	65983	59307
30°	78538	60880	56529
35°	71607	54753	53078
40°	62269	48264	49013
45°	53421	41799	44865
50°	45627	36042	40297
55°	39988	31042	35020
60°	35610	26476	29443
65°	31594	21605	23487
70°	28022	16021	13344
75°	23376	8388	3967
80°	18397	2628	657
85°	13126	1309	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	233.3	5.1
10°-20°	653.9	14.2
20°-30°	925.5	20.1
30°-40°	968.2	21.0
40°-50°	807.6	17.5
50°-60°	572.7	12.4
60°-70°	329.8	7.2
70°-80°	106.1	2.3
80°-90°	14.6	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°	1812.7	39.3
0°-40°	2780.9	60.3
0°-60°	4161.2	90.2
0°-90°	4611.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4611.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2476	2476	2476	2476	2476	
5°	2568	2535	2461	2387	2357	246
15°	2639	2531	2302	2121	2061	742
25°	2439	2258	1939	1784	1743	1113
35°	1902	1736	1454	1377	1410	1179
45°	1225	1125	958	970	1029	949
55°	744	666	577	607	651	672
65°	433	363	296	296	322	433
75°	196	144	70	33	33	213
85°	37	18	4	0	0	46
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°	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8
2.5°	2527.6	2524.0	2520.2	2524.0	2520.2	2524.0	2520.2	2520.2	2516.5	2512.9	2512.9
5°	2568.4	2564.7	2564.7	2564.7	2560.9	2557.3	2557.3	2553.6	2546.2	2542.5	2535.1
7.5°	2594.2	2598.0	2598.0	2598.0	2590.6	2590.6	2583.1	2575.8	2568.4	2560.9	2549.8
10°	2623.9	2623.9	2620.2	2616.5	2609.1	2605.4	2601.7	2594.2	2583.1	2568.4	2557.3
12.5°	2635.0	2635.0	2631.3	2623.9	2620.2	2616.5	2612.8	2601.7	2586.9	2568.4	2553.6
15°	2638.7	2631.3	2627.6	2623.9	2616.5	2605.4	2605.4	2590.6	2572.0	2549.8	2531.4
17.5°	2609.1	2612.8	2605.4	2598.0	2586.9	2579.5	2568.4	2557.3	2535.1	2509.1	2490.7
20°	2572.0	2568.4	2564.7	2553.6	2538.7	2535.1	2524.0	2505.5	2486.9	2457.4	2431.4
22.5°	2512.9	2509.1	2501.8	2494.4	2479.6	2472.2	2461.1	2438.9	2412.9	2383.4	2353.8
25°	2438.9	2431.4	2420.3	2405.6	2394.5	2387.0	2372.3	2350.0	2320.5	2287.1	2257.5
27.5°	2320.5	2331.6	2324.1	2301.9	2290.8	2276.0	2272.3	2242.7	2216.8	2183.5	2150.1
30°	2205.7	2205.7	2194.6	2183.5	2165.0	2153.9	2139.0	2116.8	2091.0	2050.3	2024.4
32.5°	2061.4	2057.7	2042.8	2039.2	2024.4	2002.1	1998.4	1968.8	1942.9	1913.3	1880.0
35°	1902.2	1894.8	1880.0	1868.9	1861.5	1850.4	1839.3	1813.4	1787.5	1757.9	1735.7
37.5°	1720.9	1720.9	1717.1	1698.7	1691.3	1683.8	1672.7	1646.9	1632.0	1602.5	1580.3
40°	1546.9	1543.2	1532.1	1528.5	1521.0	1509.9	1502.5	1487.8	1465.6	1443.4	1421.2
42.5°	1376.7	1380.4	1365.6	1369.2	1354.5	1347.2	1343.4	1321.2	1310.1	1287.9	1269.4
45°	1225.0	1221.3	1213.9	1210.1	1202.8	1195.4	1187.9	1176.8	1158.4	1136.2	1125.0
47.5°	1084.4	1073.3	1073.3	1069.5	1065.9	1051.0	1047.3	1036.2	1025.1	1002.9	988.2
50°	951.1	951.1	951.1	947.4	936.3	932.6	925.3	914.2	903.1	888.2	866.0
52.5°	843.8	843.8	843.8	840.0	825.3	821.6	817.8	803.1	788.3	777.2	762.4
55°	743.8	747.6	743.8	736.5	725.4	725.4	714.3	706.9	692.0	680.9	666.1
57.5°	658.7	658.7	651.4	647.6	640.3	636.5	629.2	621.8	603.2	592.1	573.6
60°	577.4	573.6	573.6	566.3	558.8	551.4	547.7	536.6	529.2	510.7	495.9
62.5°	503.3	503.3	495.9	495.9	481.2	481.2	477.4	466.3	455.2	436.7	429.3
65°	433.0	433.0	429.3	425.6	414.5	410.8	407.0	395.9	384.8	373.7	362.6
67.5°	370.1	370.1	362.6	359.0	351.6	347.9	340.5	333.0	321.9	310.8	299.7
70°	310.8	307.2	303.5	299.7	292.4	288.6	281.3	273.9	262.8	255.3	244.2
72.5°	251.7	251.7	247.9	240.6	236.8	233.1	229.5	222.0	211.0	199.9	192.4
75°	196.2	196.2	196.2	188.8	181.3	177.7	177.7	170.2	162.8	151.7	144.4
77.5°	151.7	148.0	144.4	144.4	136.9	133.3	129.5	125.8	114.7	111.1	103.6
80°	103.6	107.3	103.6	99.9	96.2	92.5	92.5	85.1	81.4	74.0	66.6
82.5°	70.4	66.6	66.6	62.9	62.9	59.3	59.3	51.8	48.2	44.4	40.7
85°	37.1	37.1	33.3	33.3	33.3	29.6	29.6	26.0	26.0	22.2	18.5
87.5°	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	7.4	7.4	7.4
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°	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8
2.5°	2509.1	2501.8	2498.0	2498.0	2494.4	2490.7	2486.9	2483.3	2475.8	2475.8	2468.5
5°	2527.6	2520.2	2516.5	2505.5	2498.0	2498.0	2483.3	2479.6	2468.5	2461.1	2453.6
7.5°	2542.5	2527.6	2516.5	2505.5	2498.0	2490.7	2475.8	2461.1	2446.2	2431.4	2424.0
10°	2542.5	2527.6	2509.1	2490.7	2483.3	2475.8	2457.4	2435.1	2416.7	2401.8	2383.4
12.5°	2535.1	2512.9	2490.7	2475.8	2461.1	2450.0	2427.8	2405.6	2383.4	2353.8	2338.9
15°	2512.9	2483.3	2461.1	2435.1	2424.0	2405.6	2387.0	2353.8	2327.8	2301.9	2283.4
17.5°	2468.5	2431.4	2405.6	2379.6	2361.1	2350.0	2320.5	2290.8	2261.2	2231.6	2209.4
20°	2401.8	2368.5	2338.9	2305.6	2290.8	2276.0	2239.0	2209.4	2179.8	2146.5	2124.3
22.5°	2320.5	2287.1	2246.4	2220.5	2198.3	2179.8	2146.5	2113.2	2083.5	2053.9	2024.4
25°	2220.5	2187.2	2150.1	2109.5	2094.6	2076.1	2039.2	2005.9	1972.6	1939.3	1913.3
27.5°	2113.2	2068.8	2039.2	1994.8	1979.9	1961.5	1920.8	1883.7	1854.2	1828.2	1798.6
30°	1983.7	1950.4	1909.7	1868.9	1854.2	1835.6	1802.2	1769.0	1739.4	1709.8	1680.2
32.5°	1843.0	1809.7	1769.0	1739.4	1717.1	1702.4	1669.1	1639.5	1609.8	1580.3	1554.3
35°	1694.9	1658.0	1628.4	1598.7	1580.3	1561.8	1528.5	1502.5	1480.3	1454.5	1428.5
37.5°	1543.2	1517.4	1487.8	1454.5	1435.9	1421.2	1395.2	1365.6	1347.2	1324.9	1306.4
40°	1395.2	1365.6	1339.7	1310.1	1295.3	1284.1	1258.3	1236.1	1217.6	1199.0	1187.9
42.5°	1243.5	1217.6	1191.7	1173.2	1162.1	1151.0	1132.4	1106.6	1095.5	1076.9	1065.9
45°	1102.8	1080.6	1062.2	1036.2	1028.8	1021.5	999.3	980.7	969.6	958.5	951.1
47.5°	969.6	954.8	932.6	917.8	906.7	899.3	884.5	869.7	858.6	851.1	843.8
50°	854.9	836.4	821.6	806.7	799.4	788.3	773.5	766.0	758.7	751.3	751.3
52.5°	747.6	729.1	714.3	703.2	695.8	688.3	677.2	673.6	666.1	666.1	662.5
55°	647.6	636.5	621.8	606.9	603.2	599.6	592.1	584.7	581.0	577.4	581.0
57.5°	562.5	551.4	536.6	525.5	521.8	518.1	514.4	507.0	503.3	503.3	503.3
60°	484.8	473.7	462.6	451.5	451.5	444.1	440.4	436.7	433.0	429.3	429.3
62.5°	414.5	403.4	392.3	384.8	381.2	377.5	370.1	366.4	362.6	362.6	359.0
65°	351.6	336.8	333.0	321.9	318.3	314.6	310.8	303.5	299.7	296.1	292.4
67.5°	288.6	281.3	270.2	262.8	259.1	255.3	251.7	244.2	240.6	236.8	229.5
70°	233.1	225.7	218.4	211.0	207.3	203.5	196.2	188.8	185.1	177.7	166.6
72.5°	181.3	173.9	166.6	159.1	155.5	151.7	144.4	136.9	129.5	122.2	114.7
75°	136.9	129.5	118.4	111.1	107.3	107.3	96.2	88.8	81.4	70.4	62.9
77.5°	96.2	85.1	81.4	74.0	70.4	62.9	55.5	48.2	40.7	37.1	29.6
80°	62.9	55.5	48.2	44.4	40.7	37.1	33.3	26.0	18.5	14.8	11.1
82.5°	37.1	33.3	29.6	26.0	22.2	18.5	14.8	14.8	11.1	7.4	3.7
85°	18.5	14.8	11.1	11.1	7.4	7.4	7.4	3.7	3.7	3.7	3.7
87.5°	7.4	3.7	3.7	3.7	3.7	3.7	3.7	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°	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8
2.5°	2464.7	2461.1	2457.4	2453.6	2453.6	2446.2	2446.2	2442.5	2435.1	2431.4	2431.4
5°	2442.5	2431.4	2424.0	2420.3	2416.7	2405.6	2401.8	2394.5	2387.0	2379.6	2375.9
7.5°	2409.2	2390.7	2383.4	2379.6	2368.5	2357.4	2350.0	2338.9	2327.8	2316.7	2313.0
10°	2368.5	2350.0	2331.6	2324.1	2313.0	2305.6	2290.8	2276.0	2264.9	2253.8	2242.7
12.5°	2316.7	2294.5	2276.0	2268.6	2257.5	2242.7	2220.5	2213.2	2194.6	2187.2	2172.4
15°	2257.5	2231.6	2213.2	2202.0	2190.9	2168.7	2153.9	2139.0	2120.6	2113.2	2098.4
17.5°	2183.5	2153.9	2135.4	2124.3	2116.8	2098.4	2076.1	2057.7	2039.2	2031.7	2020.6
20°	2094.6	2076.1	2050.3	2039.2	2031.7	2009.5	1987.3	1979.9	1965.1	1950.4	1939.3
22.5°	1994.8	1976.2	1950.4	1939.3	1935.5	1917.0	1898.6	1887.5	1876.4	1865.3	1854.2
25°	1891.1	1868.9	1846.7	1839.3	1831.9	1817.1	1802.2	1794.9	1783.8	1776.4	1769.0
27.5°	1780.2	1757.9	1739.4	1728.2	1720.9	1709.8	1702.4	1694.9	1687.6	1680.2	1676.5
30°	1661.6	1639.5	1624.7	1617.3	1609.8	1606.2	1595.1	1591.4	1587.6	1580.3	1584.0
32.5°	1543.2	1524.7	1509.9	1498.9	1498.9	1491.4	1487.8	1487.8	1484.0	1484.0	1484.0
35°	1413.7	1402.6	1391.5	1387.8	1384.1	1380.4	1376.7	1380.4	1376.7	1380.4	1384.1
37.5°	1295.3	1284.1	1276.8	1273.0	1269.4	1273.0	1269.4	1269.4	1273.0	1280.5	1284.1
40°	1173.2	1165.7	1158.4	1162.1	1158.4	1158.4	1158.4	1169.5	1173.2	1176.8	1180.6
42.5°	1058.4	1051.0	1047.3	1047.3	1051.0	1047.3	1054.8	1058.4	1065.9	1076.9	1084.4
45°	947.4	943.7	943.7	947.4	943.7	951.1	951.1	958.5	969.6	977.1	984.4
47.5°	843.8	843.8	843.8	847.5	847.5	851.1	858.6	862.3	869.7	877.1	884.5
50°	747.6	751.3	754.9	754.9	754.9	762.4	769.8	773.5	777.2	780.9	792.0
52.5°	662.5	666.1	666.1	669.8	673.6	677.2	680.9	688.3	692.0	699.4	703.2
55°	581.0	581.0	588.5	592.1	592.1	592.1	599.6	599.6	606.9	610.7	618.1
57.5°	503.3	507.0	507.0	510.7	510.7	514.4	518.1	521.8	525.5	529.2	532.9
60°	429.3	429.3	429.3	433.0	436.7	440.4	436.7	444.1	444.1	451.5	455.2
62.5°	359.0	362.6	362.6	362.6	362.6	362.6	362.6	366.4	370.1	373.7	377.5
65°	292.4	292.4	292.4	288.6	292.4	288.6	292.4	296.1	296.1	299.7	303.5
67.5°	225.7	225.7	218.4	218.4	222.0	222.0	222.0	222.0	218.4	225.7	225.7
70°	162.8	159.1	155.5	151.7	151.7	148.0	148.0	144.4	144.4	144.4	144.4
72.5°	107.3	99.9	92.5	88.8	85.1	85.1	77.7	74.0	77.7	77.7	77.7
75°	55.5	48.2	44.4	40.7	37.1	37.1	33.3	33.3	33.3	33.3	33.3
77.5°	22.2	18.5	14.8	14.8	11.1	11.1	11.1	11.1	11.1	11.1	11.1
80°	7.4	7.4	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
82.5°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
85°	3.7	0.0	0.0	3.7	0.0	3.7	3.7	3.7	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: P593819

CATALOG NUMBER: HC850D010-HM82555950-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8	2475.8
2.5°	2427.8	2427.8	2424.0	2427.8	2420.3	2424.0	2420.3	2420.3
5°	2372.3	2364.8	2364.8	2364.8	2361.1	2361.1	2357.4	2357.4
7.5°	2305.6	2301.9	2298.3	2294.5	2290.8	2287.1	2287.1	2287.1
10°	2239.0	2231.6	2231.6	2227.9	2220.5	2216.8	2216.8	2216.8
12.5°	2161.2	2157.6	2153.9	2153.9	2139.0	2142.8	2139.0	2139.0
15°	2087.2	2083.5	2083.5	2072.5	2065.0	2065.0	2065.0	2061.4
17.5°	2009.5	2005.9	2002.1	1994.8	1987.3	1987.3	1983.7	1987.3
20°	1928.1	1924.4	1917.0	1917.0	1913.3	1909.7	1902.2	1905.9
22.5°	1846.7	1839.3	1835.6	1835.6	1831.9	1831.9	1824.5	1824.5
25°	1761.6	1757.9	1754.2	1757.9	1750.5	1750.5	1743.1	1743.1
27.5°	1672.7	1669.1	1669.1	1669.1	1665.4	1669.1	1665.4	1665.4
30°	1584.0	1584.0	1580.3	1580.3	1584.0	1580.3	1584.0	1587.6
32.5°	1487.8	1487.8	1491.4	1491.4	1495.2	1495.2	1495.2	1495.2
35°	1387.8	1395.2	1395.2	1398.9	1402.6	1406.3	1406.3	1410.0
37.5°	1295.3	1299.0	1302.7	1306.4	1313.8	1313.8	1313.8	1313.8
40°	1195.4	1199.0	1206.5	1202.8	1217.6	1221.3	1217.6	1217.6
42.5°	1091.7	1099.1	1102.8	1110.2	1113.9	1121.3	1125.0	1125.0
45°	995.5	999.3	1006.6	1014.0	1017.7	1028.8	1028.8	1028.8
47.5°	895.6	903.1	906.7	914.2	917.8	928.9	932.6	928.9
50°	799.4	806.7	814.2	814.2	825.3	828.9	836.4	840.0
52.5°	706.9	710.5	718.0	721.6	729.1	736.5	740.2	743.8
55°	618.1	621.8	629.2	629.2	640.3	644.0	651.4	651.4
57.5°	536.6	540.3	547.7	544.1	551.4	558.8	558.8	555.2
60°	458.9	458.9	458.9	466.3	470.1	473.7	477.4	477.4
62.5°	377.5	384.8	388.6	388.6	392.3	395.9	395.9	392.3
65°	303.5	310.8	314.6	314.6	318.3	318.3	318.3	321.9
67.5°	229.5	229.5	229.5	233.1	229.5	229.5	229.5	229.5
70°	144.4	144.4	144.4	144.4	140.6	144.4	144.4	148.0
72.5°	77.7	77.7	77.7	77.7	77.7	77.7	77.7	77.7
75°	33.3	33.3	33.3	37.1	33.3	33.3	33.3	33.3
77.5°	14.8	11.1	14.8	14.8	11.1	11.1	11.1	11.1
80°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
82.5°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
85°	0.0	3.7	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)