

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: P584829

Luminaire Tested: **HC850D010-HM82555835-81WWWB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584829  
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: HC850D010-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: 5084.3 lumens  
Efficiency: N/A  
Efficacy: 105.9 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

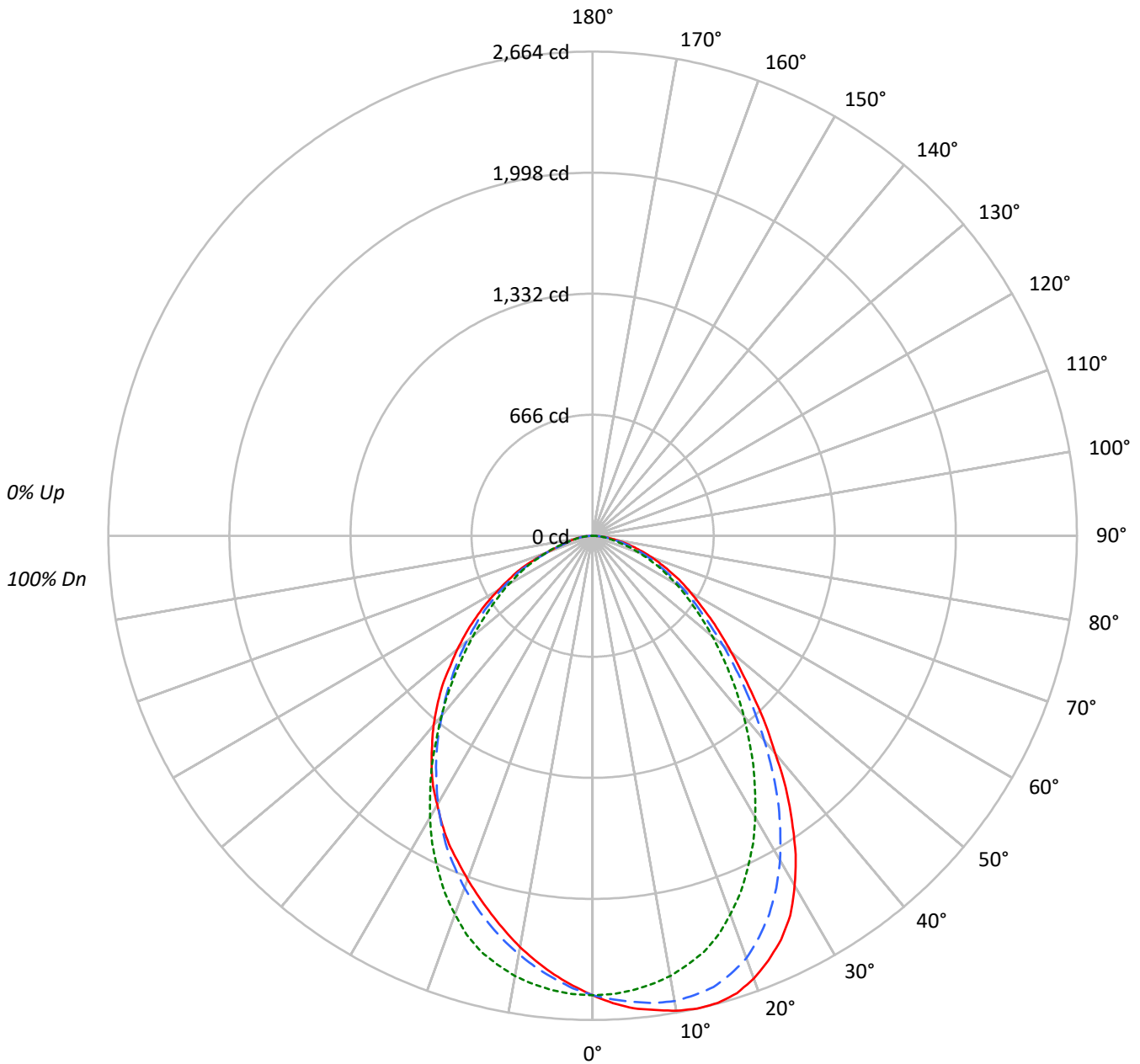
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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	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°	77954	77954	77954
5°	80806	77695	75027
10°	83090	77018	71958
15°	84944	75657	68780
20°	85077	72702	65988
25°	83448	68661	63656
30°	79143	63672	60859
35°	71915	57991	58123
40°	62877	52036	54782
45°	54498	46352	51049
50°	47719	41170	46514
55°	42472	36488	42084
60°	38311	32773	36985
65°	34585	28821	32221
70°	31078	24280	23955
75°	27379	19253	17967
80°	22961	15947	17207
85°	17796	13975	15249



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	238.5	4.7
10°-20°	671.7	13.2
20°-30°	960.0	18.9
30°-40°	1020.0	20.1
40°-50°	878.2	17.3
50°-60°	656.6	12.9
60°-70°	418.8	8.2
70°-80°	190.6	3.7
80°-90°	50.0	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°	1870.1	36.8
0°-40°	2890.1	56.8
0°-60°	4424.9	87.0
0°-90°	5084.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5084.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2528	2528	2528	2528	2528	
5°	2610	2575	2510	2445	2424	250
15°	2661	2571	2370	2208	2154	749
25°	2453	2298	2018	1896	1871	1123
35°	1910	1778	1540	1501	1544	1190
45°	1250	1181	1063	1092	1171	971
55°	790	725	679	736	783	710
65°	474	420	395	413	442	473
75°	230	197	162	147	151	244
85°	50	43	40	43	43	61
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°	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0
2.5°	2574.6	2567.5	2571.0	2567.5	2571.0	2571.0	2563.9	2563.9	2563.9	2563.9	2553.1
5°	2610.5	2607.0	2607.0	2603.4	2599.7	2603.4	2599.7	2596.1	2589.0	2585.4	2574.6
7.5°	2632.1	2632.1	2632.1	2632.1	2628.5	2624.9	2621.4	2614.1	2607.0	2599.7	2592.6
10°	2653.6	2657.3	2653.6	2650.0	2646.5	2639.3	2635.6	2628.5	2617.7	2607.0	2599.7
12.5°	2664.4	2664.4	2660.8	2660.8	2653.6	2650.0	2639.3	2628.5	2617.7	2607.0	2589.0
15°	2660.8	2660.8	2657.3	2653.6	2642.9	2639.3	2632.1	2621.4	2603.4	2589.0	2571.0
17.5°	2639.3	2635.6	2628.5	2628.5	2614.1	2610.5	2603.4	2589.0	2571.0	2549.5	2528.0
20°	2592.6	2592.6	2589.0	2585.4	2571.0	2560.2	2553.1	2535.1	2520.7	2495.6	2474.1
22.5°	2528.0	2535.1	2528.0	2520.7	2502.8	2499.2	2488.5	2466.9	2445.3	2416.7	2391.5
25°	2452.6	2448.9	2445.3	2438.2	2423.8	2416.7	2402.3	2380.7	2359.2	2326.9	2298.1
27.5°	2355.5	2341.3	2341.3	2326.9	2316.1	2305.3	2298.1	2276.6	2247.9	2222.7	2186.8
30°	2222.7	2226.4	2208.4	2204.7	2186.8	2179.6	2165.2	2143.7	2118.6	2089.8	2061.2
32.5°	2079.1	2068.3	2068.3	2053.9	2039.6	2028.8	2025.2	2000.0	1978.5	1949.8	1921.1
35°	1910.4	1910.4	1899.5	1896.0	1881.6	1874.4	1863.6	1849.2	1824.1	1799.0	1777.5
37.5°	1745.2	1738.0	1734.3	1727.2	1716.4	1705.7	1705.7	1680.6	1676.9	1648.2	1619.4
40°	1562.0	1569.1	1562.0	1551.3	1547.6	1540.5	1536.9	1522.5	1511.8	1486.6	1468.6
42.5°	1407.6	1400.5	1400.5	1396.8	1382.5	1382.5	1375.3	1368.1	1350.2	1342.9	1321.4
45°	1249.7	1256.8	1246.0	1249.7	1235.3	1235.3	1235.3	1220.9	1206.5	1195.8	1181.4
47.5°	1113.1	1116.7	1116.7	1106.0	1102.4	1102.4	1095.2	1088.0	1077.2	1062.9	1052.1
50°	994.7	998.2	991.1	987.5	980.3	976.7	976.7	962.3	955.2	940.8	933.6
52.5°	886.9	886.9	883.3	883.3	872.5	872.5	865.4	854.7	847.4	840.3	822.3
55°	790.0	790.0	786.4	782.8	782.8	772.0	768.4	757.6	750.5	736.1	725.4
57.5°	696.6	700.2	696.6	693.0	689.5	685.9	678.7	667.8	660.7	650.0	642.7
60°	621.2	621.2	617.6	614.1	606.8	603.2	599.7	592.4	581.7	574.6	563.8
62.5°	549.4	545.8	542.2	538.7	531.4	531.4	524.3	517.0	506.3	499.2	491.9
65°	474.0	474.0	470.4	470.4	466.8	459.7	456.0	452.4	438.0	434.5	420.1
67.5°	405.8	409.4	402.1	402.1	395.0	395.0	391.4	380.6	377.0	369.9	362.6
70°	344.7	344.7	344.7	341.1	334.0	330.4	326.7	319.6	316.0	308.8	301.6
72.5°	283.7	283.7	280.1	280.1	276.5	273.0	269.3	262.1	262.1	255.0	247.7
75°	229.8	229.8	226.2	222.6	219.1	219.1	215.4	211.8	204.7	201.1	197.4
77.5°	175.9	175.9	175.9	172.3	168.8	168.8	168.8	161.6	154.4	154.4	150.8
80°	129.3	129.3	125.7	125.7	122.0	122.0	122.0	118.5	114.9	111.3	107.8
82.5°	86.2	86.2	86.2	86.2	82.5	82.5	82.5	79.0	75.4	75.4	75.4
85°	50.3	50.3	50.3	50.3	46.6	46.6	46.6	46.6	46.6	43.1	43.1
87.5°	21.5	18.0	21.5	18.0	21.5	18.0	21.5	18.0	18.0	18.0	18.0
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°	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0
2.5°	2556.7	2553.1	2549.5	2545.8	2545.8	2542.3	2535.1	2531.6	2528.0	2524.3	2524.3
5°	2571.0	2567.5	2560.2	2553.1	2549.5	2542.3	2535.1	2528.0	2520.7	2510.0	2506.5
7.5°	2581.9	2571.0	2563.9	2549.5	2545.8	2538.7	2528.0	2517.2	2502.8	2488.5	2477.7
10°	2581.9	2567.5	2556.7	2538.7	2531.6	2524.3	2510.0	2492.1	2474.1	2459.7	2441.8
12.5°	2574.6	2556.7	2538.7	2520.7	2510.0	2499.2	2477.7	2459.7	2438.2	2416.7	2402.3
15°	2549.5	2528.0	2506.5	2484.8	2474.1	2459.7	2438.2	2413.0	2391.5	2369.9	2344.8
17.5°	2502.8	2481.3	2456.2	2430.9	2416.7	2405.8	2373.5	2355.5	2323.3	2301.8	2280.1
20°	2441.8	2416.7	2384.3	2359.2	2341.3	2330.4	2305.3	2273.0	2247.9	2215.5	2194.0
22.5°	2362.8	2330.4	2298.1	2273.0	2255.0	2240.6	2208.4	2176.1	2154.5	2125.8	2100.7
25°	2269.4	2237.1	2204.7	2168.8	2151.0	2136.6	2107.8	2079.1	2050.3	2018.0	1996.5
27.5°	2158.1	2122.2	2093.4	2061.2	2043.2	2021.7	1989.3	1960.6	1931.9	1910.4	1881.6
30°	2036.0	1996.5	1967.8	1935.5	1917.5	1899.5	1867.2	1838.5	1813.4	1788.2	1773.8
32.5°	1888.8	1860.0	1831.4	1799.0	1784.6	1773.8	1741.6	1712.8	1684.1	1662.6	1651.8
35°	1748.7	1716.4	1691.3	1662.6	1644.5	1633.8	1605.2	1580.0	1565.6	1540.5	1526.1
37.5°	1601.5	1576.4	1547.6	1518.9	1508.1	1497.4	1475.9	1450.7	1429.1	1411.2	1404.0
40°	1447.1	1425.6	1400.5	1382.5	1371.7	1360.9	1342.9	1325.1	1310.7	1292.7	1285.5
42.5°	1299.9	1285.5	1263.9	1242.4	1231.7	1228.0	1206.5	1192.1	1185.0	1177.8	1170.6
45°	1167.0	1145.5	1131.1	1116.7	1106.0	1098.7	1088.0	1077.2	1070.1	1062.9	1055.7
47.5°	1037.7	1019.8	1005.5	994.7	983.8	980.3	973.1	962.3	955.2	955.2	955.2
50°	919.3	904.9	890.5	883.3	879.8	872.5	865.4	861.8	858.2	858.2	858.2
52.5°	815.1	800.8	790.0	782.8	782.8	775.6	768.4	764.9	764.9	764.9	764.9
55°	718.1	707.4	700.2	693.0	685.9	682.2	682.2	682.2	678.7	678.7	682.2
57.5°	632.0	624.8	614.1	606.8	603.2	603.2	599.7	596.1	599.7	603.2	606.8
60°	552.9	545.8	542.2	531.4	531.4	531.4	527.8	527.8	527.8	531.4	535.1
62.5°	481.2	477.5	470.4	466.8	463.3	463.3	459.7	459.7	459.7	459.7	463.3
65°	416.5	409.4	402.1	402.1	402.1	398.6	398.6	391.4	395.0	395.0	391.4
67.5°	355.5	348.4	344.7	341.1	337.5	337.5	334.0	330.4	326.7	326.7	326.7
70°	298.1	290.8	290.8	283.7	283.7	280.1	276.5	276.5	273.0	269.3	265.7
72.5°	240.6	237.0	233.4	229.8	229.8	229.8	226.2	222.6	219.1	215.4	208.3
75°	190.3	190.3	183.2	179.6	179.6	175.9	172.3	168.8	165.2	161.6	158.0
77.5°	147.2	143.7	136.4	132.9	132.9	132.9	129.3	125.7	122.0	118.5	114.9
80°	107.8	104.2	100.5	96.9	96.9	96.9	93.4	93.4	89.8	89.8	89.8
82.5°	71.8	71.8	68.3	68.3	68.3	68.3	64.6	64.6	64.6	64.6	64.6
85°	43.1	43.1	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5
87.5°	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
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°	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0
2.5°	2517.2	2517.2	2510.0	2506.5	2502.8	2506.5	2499.2	2495.6	2492.1	2492.1	2488.5
5°	2495.6	2492.1	2477.7	2474.1	2470.4	2466.9	2459.7	2452.6	2445.3	2441.8	2438.2
7.5°	2466.9	2456.2	2441.8	2438.2	2434.6	2423.8	2413.0	2405.8	2395.0	2391.5	2384.3
10°	2427.4	2413.0	2402.3	2391.5	2384.3	2373.5	2362.8	2352.0	2337.6	2334.0	2323.3
12.5°	2380.7	2362.8	2341.3	2337.6	2326.9	2312.5	2298.1	2287.4	2276.6	2269.4	2258.6
15°	2323.3	2305.3	2283.8	2273.0	2262.2	2251.5	2233.5	2219.1	2208.4	2197.6	2186.8
17.5°	2255.0	2233.5	2215.5	2204.7	2197.6	2179.6	2165.2	2147.3	2136.6	2125.8	2115.0
20°	2172.5	2154.5	2129.3	2118.6	2115.0	2100.7	2082.7	2075.4	2061.2	2050.3	2043.2
22.5°	2079.1	2061.2	2039.6	2032.4	2018.0	2010.9	1992.9	1985.8	1978.5	1967.8	1964.2
25°	1974.9	1957.0	1939.0	1935.5	1924.6	1917.5	1906.8	1896.0	1896.0	1885.1	1885.1
27.5°	1867.2	1849.2	1834.9	1827.7	1824.1	1817.0	1806.2	1802.6	1799.0	1795.5	1795.5
30°	1752.3	1730.8	1723.6	1720.1	1716.4	1709.2	1705.7	1698.4	1702.1	1705.7	1702.1
32.5°	1630.3	1623.0	1608.7	1601.5	1605.2	1601.5	1594.3	1601.5	1597.9	1605.2	1608.7
35°	1511.8	1504.5	1497.4	1497.4	1490.2	1490.2	1490.2	1493.7	1501.0	1504.5	1511.8
37.5°	1396.8	1386.1	1382.5	1378.8	1382.5	1382.5	1382.5	1389.7	1396.8	1404.0	1414.8
40°	1274.8	1267.5	1267.5	1267.5	1267.5	1278.3	1274.8	1281.9	1289.1	1299.9	1310.7
42.5°	1159.9	1159.9	1163.4	1163.4	1163.4	1163.4	1170.6	1181.4	1192.1	1202.9	1213.7
45°	1052.1	1052.1	1052.1	1059.3	1059.3	1062.9	1077.2	1084.5	1091.6	1102.4	1113.1
47.5°	951.6	951.6	955.2	958.7	962.3	969.6	976.7	987.5	998.2	1005.5	1016.2
50°	858.2	861.8	869.0	876.2	876.2	879.8	890.5	897.7	904.9	915.7	919.3
52.5°	768.4	775.6	782.8	786.4	790.0	797.1	800.8	811.5	815.1	825.9	829.5
55°	685.9	689.5	700.2	703.9	703.9	711.0	718.1	725.4	736.1	736.1	743.3
57.5°	610.5	614.1	621.2	624.8	621.2	632.0	635.6	642.7	646.3	653.6	657.1
60°	535.1	542.2	545.8	545.8	549.4	552.9	560.2	560.2	567.3	574.6	574.6
62.5°	463.3	466.8	470.4	474.0	477.5	474.0	484.8	484.8	491.9	495.5	502.7
65°	395.0	398.6	398.6	402.1	402.1	405.8	405.8	409.4	412.9	420.1	423.8
67.5°	326.7	326.7	326.7	330.4	326.7	330.4	330.4	334.0	334.0	341.1	344.7
70°	265.7	262.1	258.6	258.6	258.6	258.6	255.0	258.6	258.6	262.1	262.1
72.5°	204.7	201.1	197.4	193.9	193.9	190.3	186.7	190.3	190.3	193.9	193.9
75°	154.4	147.2	147.2	147.2	143.7	143.7	143.7	147.2	147.2	147.2	150.8
77.5°	114.9	114.9	111.3	111.3	111.3	114.9	114.9	118.5	118.5	118.5	118.5
80°	86.2	89.8	89.8	89.8	89.8	93.4	93.4	93.4	93.4	96.9	96.9
82.5°	64.6	64.6	64.6	64.6	68.3	68.3	68.3	68.3	68.3	68.3	68.3
85°	39.5	43.1	43.1	39.5	43.1	43.1	43.1	43.1	43.1	43.1	43.1
87.5°	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
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: P584829

CATALOG NUMBER: HC850D010-HM82555835-81WWWB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0	2528.0
2.5°	2484.8	2484.8	2484.8	2484.8	2481.3	2481.3	2481.3	2477.7
5°	2430.9	2430.9	2430.9	2423.8	2427.4	2427.4	2420.2	2423.8
7.5°	2377.2	2373.5	2369.9	2369.9	2366.4	2362.8	2359.2	2362.8
10°	2316.1	2305.3	2305.3	2301.8	2301.8	2294.5	2294.5	2298.1
12.5°	2247.9	2240.6	2240.6	2237.1	2233.5	2229.9	2226.4	2226.4
15°	2179.6	2172.5	2168.8	2165.2	2161.7	2154.5	2158.1	2154.5
17.5°	2111.4	2100.7	2100.7	2097.1	2093.4	2086.3	2086.3	2082.7
20°	2032.4	2028.8	2021.7	2025.2	2021.7	2014.4	2010.9	2010.9
22.5°	1953.4	1953.4	1949.8	1949.8	1946.3	1942.6	1939.0	1939.0
25°	1878.0	1874.4	1878.0	1878.0	1867.2	1867.2	1867.2	1870.9
27.5°	1791.8	1795.5	1791.8	1791.8	1791.8	1791.8	1795.5	1791.8
30°	1705.7	1705.7	1705.7	1709.2	1716.4	1712.8	1712.8	1709.2
32.5°	1612.3	1615.9	1615.9	1619.4	1623.0	1630.3	1630.3	1633.8
35°	1518.9	1526.1	1529.6	1526.1	1536.9	1536.9	1544.0	1544.0
37.5°	1422.0	1425.6	1432.7	1436.4	1443.5	1447.1	1450.7	1450.7
40°	1317.8	1332.2	1335.8	1339.3	1350.2	1350.2	1353.7	1360.9
42.5°	1220.9	1235.3	1238.8	1242.4	1249.7	1260.4	1256.8	1263.9
45°	1127.5	1138.3	1141.9	1145.5	1156.3	1159.9	1159.9	1170.6
47.5°	1027.0	1034.2	1037.7	1045.0	1052.1	1059.3	1066.5	1062.9
50°	926.4	937.2	944.4	947.9	958.7	962.3	965.9	969.6
52.5°	836.7	843.9	847.4	851.0	861.8	865.4	869.0	876.2
55°	750.5	754.1	761.3	757.6	768.4	772.0	775.6	782.8
57.5°	664.3	667.8	671.5	671.5	678.7	685.9	689.5	693.0
60°	581.7	588.9	592.4	592.4	592.4	599.7	599.7	599.7
62.5°	506.3	506.3	509.9	509.9	517.0	517.0	517.0	517.0
65°	427.3	430.9	434.5	434.5	441.6	438.0	445.3	441.6
67.5°	344.7	344.7	351.9	351.9	348.4	351.9	351.9	351.9
70°	262.1	262.1	265.7	265.7	265.7	265.7	265.7	265.7
72.5°	193.9	193.9	193.9	197.4	193.9	193.9	197.4	193.9
75°	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8
77.5°	118.5	118.5	122.0	122.0	122.0	122.0	122.0	122.0
80°	96.9	96.9	96.9	96.9	100.5	96.9	96.9	96.9
82.5°	71.8	68.3	71.8	68.3	71.8	71.8	71.8	71.8
85°	43.1	43.1	43.1	43.1	43.1	43.1	43.1	43.1
87.5°	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
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)