

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: P593921

Luminaire Tested: **HC880D010-HM86080950-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593921  
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: HC880D010-HM86080950-81WWBB  
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: 5670.8 lumens  
Efficiency: N/A  
Efficacy: 81.0 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

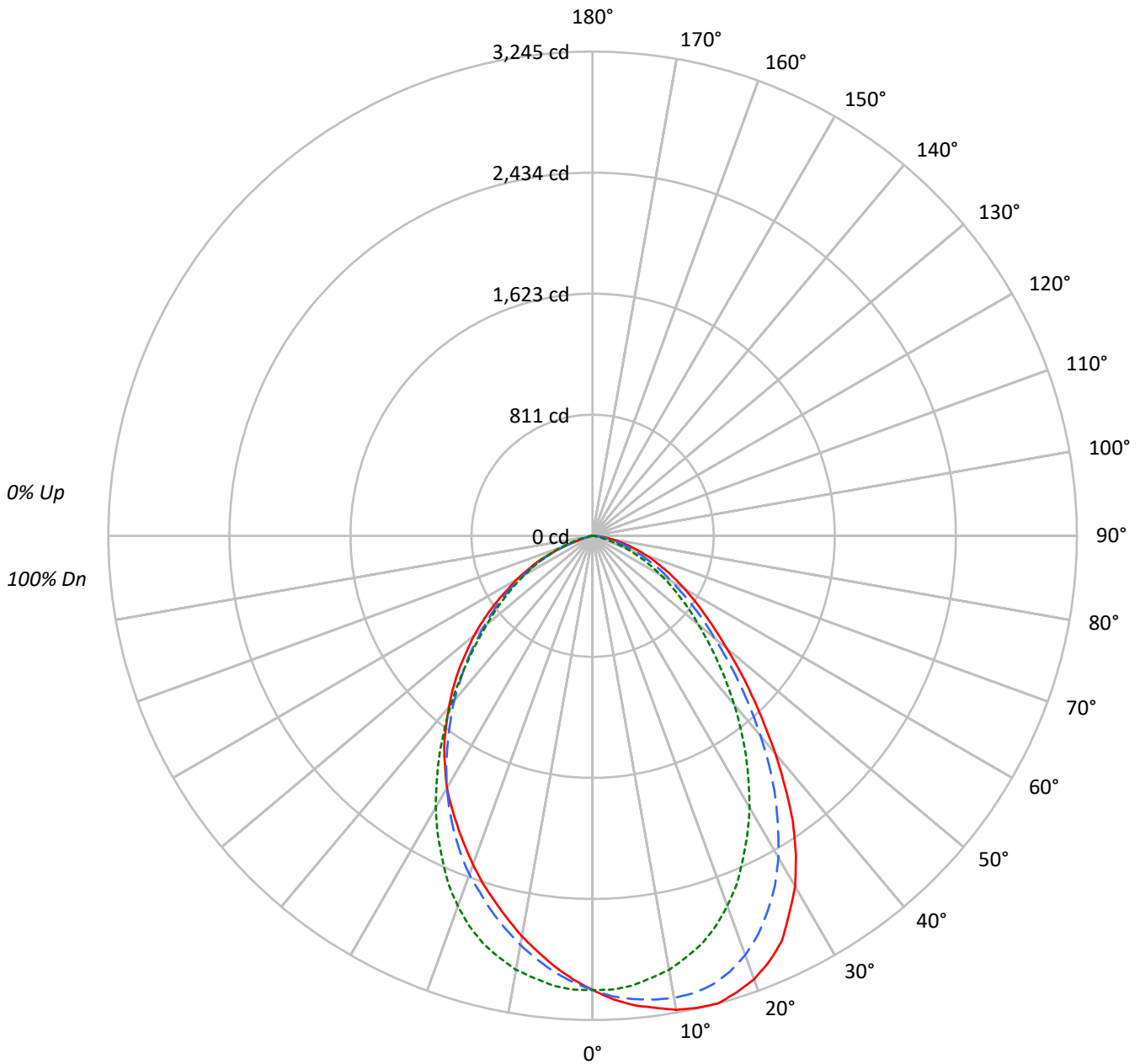
Input Watts (W): 70  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	93878	93878	93878
5°	97759	93673	89730
10°	101028	92477	85353
15°	103584	90361	80918
20°	103785	86616	76906
25°	102035	81130	72927
30°	96573	74860	69511
35°	88054	67323	65267
40°	76571	59354	60268
45°	65684	51402	55170
50°	56104	44322	49556
55°	49176	38171	43058
60°	43788	32557	36202
65°	38847	26567	28887
70°	34468	19691	16409
75°	28725	10294	4873
80°	22641	3232	799
85°	16098	1592	0



TEST NUMBER: P593921

CATALOG NUMBER: HC880D010-HM86080950-81WWBB

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	286.9	5.1
10°-20°	804.0	14.2
20°-30°	1138.0	20.1
30°-40°	1190.6	21.0
40°-50°	993.1	17.5
50°-60°	704.2	12.4
60°-70°	405.6	7.2
70°-80°	130.5	2.3
80°-90°	18.0	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°	2228.9	39.3
0°-40°	3419.5	60.3
0°-60°	5116.8	90.2
0°-90°	5670.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5670.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3044	3044	3044	3044	3044	
5°	3158	3117	3026	2935	2899	303
15°	3245	3113	2830	2608	2535	912
25°	2999	2776	2384	2194	2143	1368
35°	2339	2134	1788	1693	1734	1450
45°	1506	1383	1179	1192	1265	1167
55°	915	819	710	746	801	826
65°	532	446	364	364	396	532
75°	241	178	86	41	41	261
85°	46	23	4	0	0	57
90°	0	0	0	0	0	



TEST NUMBER: P593921

CATALOG NUMBER: HC880D010-HM86080950-81WWBB

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4
2.5°	3108.2	3103.5	3099.0	3103.5	3099.0	3103.5	3099.0	3099.0	3094.5	3090.0	3090.0
5°	3158.2	3153.6	3153.6	3153.6	3149.1	3144.5	3144.5	3140.0	3130.9	3126.4	3117.2
7.5°	3190.1	3194.6	3194.6	3194.6	3185.4	3185.4	3176.4	3167.3	3158.2	3149.1	3135.4
10°	3226.5	3226.5	3222.0	3217.3	3208.3	3203.6	3199.1	3190.1	3176.4	3158.2	3144.5
12.5°	3240.1	3240.1	3235.5	3226.5	3222.0	3217.3	3212.8	3199.1	3180.9	3158.2	3140.0
15°	3244.7	3235.5	3231.0	3226.5	3217.3	3203.6	3203.6	3185.4	3162.7	3135.4	3112.7
17.5°	3208.3	3212.8	3203.6	3194.6	3180.9	3171.9	3158.2	3144.5	3117.2	3085.3	3062.6
20°	3162.7	3158.2	3153.6	3140.0	3121.8	3117.2	3103.5	3080.8	3058.1	3021.7	2989.9
22.5°	3090.0	3085.3	3076.3	3067.1	3049.0	3039.9	3026.2	2998.9	2967.0	2930.6	2894.3
25°	2998.9	2989.9	2976.2	2958.0	2944.3	2935.2	2917.0	2889.7	2853.2	2812.3	2776.0
27.5°	2853.2	2866.9	2857.9	2830.5	2816.9	2798.7	2794.2	2757.8	2725.9	2684.9	2644.0
30°	2712.2	2712.2	2698.6	2684.9	2662.2	2648.5	2630.3	2603.0	2571.1	2521.0	2489.3
32.5°	2534.7	2530.2	2512.0	2507.5	2489.3	2461.9	2457.4	2420.9	2389.2	2352.7	2311.8
35°	2339.1	2330.0	2311.8	2298.1	2289.1	2275.4	2261.7	2229.9	2198.0	2161.6	2134.3
37.5°	2116.1	2116.1	2111.5	2088.7	2079.7	2070.5	2057.0	2025.1	2006.9	1970.4	1943.2
40°	1902.2	1897.6	1884.0	1879.5	1870.3	1856.7	1847.6	1829.4	1802.0	1774.8	1747.5
42.5°	1692.9	1697.4	1679.2	1683.7	1665.6	1656.5	1651.9	1624.6	1611.0	1583.6	1560.9
45°	1506.2	1501.7	1492.7	1488.0	1479.0	1469.8	1460.8	1447.1	1424.4	1397.1	1383.4
47.5°	1333.3	1319.7	1319.7	1315.2	1310.6	1292.4	1287.8	1274.3	1260.6	1233.2	1215.0
50°	1169.5	1169.5	1169.5	1165.0	1151.3	1146.8	1137.6	1124.1	1110.4	1092.2	1064.9
52.5°	1037.5	1037.5	1037.5	1033.0	1014.8	1010.3	1005.7	987.5	969.3	955.6	937.4
55°	914.7	919.2	914.7	905.5	892.0	892.0	878.3	869.2	851.0	837.3	819.1
57.5°	810.1	810.1	800.9	796.4	787.2	782.7	773.6	764.5	741.8	728.1	705.3
60°	710.0	705.3	705.3	696.3	687.1	678.1	673.4	659.9	650.7	628.0	609.8
62.5°	618.9	618.9	609.8	609.8	591.6	591.6	587.0	573.3	559.8	537.0	527.9
65°	532.4	532.4	527.9	523.3	509.7	505.1	500.6	486.9	473.2	459.7	446.0
67.5°	455.0	455.0	446.0	441.5	432.3	427.8	418.6	409.6	395.9	382.3	368.6
70°	382.3	377.7	373.1	368.6	359.6	354.9	345.9	336.7	323.1	314.0	300.3
72.5°	309.5	309.5	304.9	295.8	291.2	286.7	282.1	273.0	259.4	245.8	236.6
75°	241.1	241.1	241.1	232.1	222.9	218.4	218.4	209.4	200.2	186.6	177.5
77.5°	186.6	182.0	177.5	177.5	168.4	163.8	159.3	154.7	141.0	136.5	127.5
80°	127.5	132.0	127.5	122.8	118.3	113.8	113.8	104.6	100.1	91.0	81.9
82.5°	86.4	81.9	81.9	77.4	77.4	72.8	72.8	63.7	59.2	54.6	50.1
85°	45.5	45.5	40.9	40.9	40.9	36.4	36.4	31.9	31.9	27.3	22.7
87.5°	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	9.2	9.2	9.2
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: P593921

CATALOG NUMBER: HC880D010-HM86080950-81WWBB

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4
2.5°	3085.3	3076.3	3071.8	3071.8	3067.1	3062.6	3058.1	3053.5	3044.4	3044.4	3035.3
5°	3108.2	3099.0	3094.5	3080.8	3071.8	3071.8	3053.5	3049.0	3035.3	3026.2	3017.1
7.5°	3126.4	3108.2	3094.5	3080.8	3071.8	3062.6	3044.4	3026.2	3008.1	2989.9	2980.7
10°	3126.4	3108.2	3085.3	3062.6	3053.5	3044.4	3021.7	2994.4	2971.7	2953.4	2930.6
12.5°	3117.2	3090.0	3062.6	3044.4	3026.2	3012.6	2985.2	2958.0	2930.6	2894.3	2876.1
15°	3090.0	3053.5	3026.2	2994.4	2980.7	2958.0	2935.2	2894.3	2862.4	2830.5	2807.8
17.5°	3035.3	2989.9	2958.0	2926.1	2903.3	2889.7	2853.2	2816.9	2780.5	2744.1	2716.7
20°	2953.4	2912.5	2876.1	2835.1	2816.9	2798.7	2753.1	2716.7	2680.4	2639.5	2612.1
22.5°	2853.2	2812.3	2762.3	2730.4	2703.1	2680.4	2639.5	2598.4	2562.1	2525.7	2489.3
25°	2730.4	2689.5	2644.0	2593.9	2575.7	2552.9	2507.5	2466.5	2425.6	2384.5	2352.7
27.5°	2598.4	2543.9	2507.5	2452.8	2434.6	2411.9	2361.8	2316.3	2279.9	2248.0	2211.7
30°	2439.2	2398.2	2348.2	2298.1	2279.9	2257.2	2216.2	2175.3	2138.9	2102.4	2066.0
32.5°	2266.2	2225.3	2175.3	2138.9	2111.5	2093.4	2052.3	2015.9	1979.6	1943.2	1911.3
35°	2084.2	2038.7	2002.3	1965.9	1943.2	1920.4	1879.5	1847.6	1820.2	1788.4	1756.6
37.5°	1897.6	1865.8	1829.4	1788.4	1765.7	1747.5	1715.6	1679.2	1656.5	1629.2	1606.5
40°	1715.6	1679.2	1647.4	1611.0	1592.8	1579.1	1547.2	1519.9	1497.2	1474.5	1460.8
42.5°	1529.1	1497.2	1465.3	1442.6	1428.9	1415.3	1392.6	1360.7	1347.0	1324.3	1310.6
45°	1356.1	1328.8	1306.0	1274.3	1265.1	1255.9	1228.7	1205.9	1192.3	1178.7	1169.5
47.5°	1192.3	1174.1	1146.8	1128.6	1114.9	1105.8	1087.6	1069.4	1055.7	1046.7	1037.5
50°	1051.2	1028.5	1010.3	992.1	982.9	969.3	951.1	942.0	932.9	923.9	923.9
52.5°	919.2	896.5	878.3	864.6	855.5	846.4	832.8	828.3	819.1	819.1	814.6
55°	796.4	782.7	764.5	746.3	741.8	737.2	728.1	719.0	714.5	710.0	714.5
57.5°	691.8	678.1	659.9	646.2	641.7	637.1	632.5	623.4	618.9	618.9	618.9
60°	596.2	582.5	568.8	555.1	555.1	546.1	541.6	537.0	532.4	527.9	527.9
62.5°	509.7	496.1	482.4	473.2	468.7	464.2	455.0	450.5	446.0	446.0	441.5
65°	432.3	414.1	409.6	395.9	391.4	386.8	382.3	373.1	368.6	364.1	359.6
67.5°	354.9	345.9	332.2	323.1	318.5	314.0	309.5	300.3	295.8	291.2	282.1
70°	286.7	277.6	268.5	259.4	254.8	250.3	241.1	232.1	227.6	218.4	204.7
72.5°	222.9	213.9	204.7	195.7	191.1	186.6	177.5	168.4	159.3	150.2	141.0
75°	168.4	159.3	145.7	136.5	132.0	132.0	118.3	109.3	100.1	86.4	77.4
77.5°	118.3	104.6	100.1	91.0	86.4	77.4	68.2	59.2	50.1	45.5	36.4
80°	77.4	68.2	59.2	54.6	50.1	45.5	40.9	31.9	22.7	18.2	13.7
82.5°	45.5	40.9	36.4	31.9	27.3	22.7	18.2	18.2	13.7	9.2	4.5
85°	22.7	18.2	13.7	13.7	9.2	9.2	9.2	4.5	4.5	4.5	4.5
87.5°	9.2	4.5	4.5	4.5	4.5	4.5	4.5	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: P593921

CATALOG NUMBER: HC880D010-HM86080950-81WWBB

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4
2.5°	3030.8	3026.2	3021.7	3017.1	3017.1	3008.1	3008.1	3003.4	2994.4	2989.9	2989.9
5°	3003.4	2989.9	2980.7	2976.2	2971.7	2958.0	2953.4	2944.3	2935.2	2926.1	2921.6
7.5°	2962.5	2939.8	2930.6	2926.1	2912.5	2898.8	2889.7	2876.1	2862.4	2848.7	2844.2
10°	2912.5	2889.7	2866.9	2857.9	2844.2	2835.1	2816.9	2798.7	2785.0	2771.4	2757.8
12.5°	2848.7	2821.5	2798.7	2789.6	2776.0	2757.8	2730.4	2721.3	2698.6	2689.5	2671.2
15°	2776.0	2744.1	2721.3	2707.7	2694.0	2666.7	2648.5	2630.3	2607.6	2598.4	2580.2
17.5°	2684.9	2648.5	2625.8	2612.1	2603.0	2580.2	2552.9	2530.2	2507.5	2498.3	2484.7
20°	2575.7	2552.9	2521.0	2507.5	2498.3	2471.0	2443.8	2434.6	2416.4	2398.2	2384.5
22.5°	2452.8	2430.1	2398.2	2384.5	2380.0	2357.3	2334.5	2320.8	2307.3	2293.6	2279.9
25°	2325.4	2298.1	2270.8	2261.7	2252.6	2234.4	2216.2	2207.1	2193.5	2184.3	2175.3
27.5°	2188.9	2161.6	2138.9	2125.2	2116.1	2102.4	2093.4	2084.2	2075.2	2066.0	2061.5
30°	2043.3	2015.9	1997.8	1988.6	1979.6	1975.0	1961.4	1956.9	1952.2	1943.2	1947.7
32.5°	1897.6	1874.9	1856.7	1843.1	1843.1	1833.9	1829.4	1829.4	1824.9	1824.9	1824.9
35°	1738.3	1724.8	1711.1	1706.6	1701.9	1697.4	1692.9	1697.4	1692.9	1697.4	1701.9
37.5°	1592.8	1579.1	1570.0	1565.4	1560.9	1565.4	1560.9	1560.9	1565.4	1574.6	1579.1
40°	1442.6	1433.5	1424.4	1428.9	1424.4	1424.4	1424.4	1438.0	1442.6	1447.1	1451.7
42.5°	1301.5	1292.4	1287.8	1287.8	1292.4	1287.8	1297.0	1301.5	1310.6	1324.3	1333.3
45°	1165.0	1160.5	1160.5	1165.0	1160.5	1169.5	1169.5	1178.7	1192.3	1201.4	1210.5
47.5°	1037.5	1037.5	1037.5	1042.2	1042.2	1046.7	1055.7	1060.4	1069.4	1078.5	1087.6
50°	919.2	923.9	928.4	928.4	928.4	937.4	946.6	951.1	955.6	960.2	973.9
52.5°	814.6	819.1	819.1	823.6	828.3	832.8	837.3	846.4	851.0	860.1	864.6
55°	714.5	714.5	723.5	728.1	728.1	728.1	737.2	737.2	746.3	750.9	760.0
57.5°	618.9	623.4	623.4	628.0	628.0	632.5	637.1	641.7	646.2	650.7	655.3
60°	527.9	527.9	527.9	532.4	537.0	541.6	537.0	546.1	546.1	555.1	559.8
62.5°	441.5	446.0	446.0	446.0	446.0	446.0	446.0	450.5	455.0	459.7	464.2
65°	359.6	359.6	359.6	354.9	359.6	354.9	359.6	364.1	364.1	368.6	373.1
67.5°	277.6	277.6	268.5	268.5	273.0	273.0	273.0	273.0	268.5	277.6	277.6
70°	200.2	195.7	191.1	186.6	186.6	182.0	182.0	177.5	177.5	177.5	177.5
72.5°	132.0	122.8	113.8	109.3	104.6	104.6	95.6	91.0	95.6	95.6	95.6
75°	68.2	59.2	54.6	50.1	45.5	45.5	40.9	40.9	40.9	40.9	40.9
77.5°	27.3	22.7	18.2	18.2	13.7	13.7	13.7	13.7	13.7	13.7	13.7
80°	9.2	9.2	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
82.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
85°	4.5	0.0	0.0	4.5	0.0	4.5	4.5	4.5	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: P593921

CATALOG NUMBER: HC880D010-HM86080950-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4	3044.4
2.5°	2985.2	2985.2	2980.7	2985.2	2976.2	2980.7	2976.2	2976.2
5°	2917.0	2907.9	2907.9	2907.9	2903.3	2903.3	2898.8	2898.8
7.5°	2835.1	2830.5	2826.0	2821.5	2816.9	2812.3	2812.3	2812.3
10°	2753.1	2744.1	2744.1	2739.6	2730.4	2725.9	2725.9	2725.9
12.5°	2657.7	2653.0	2648.5	2648.5	2630.3	2634.8	2630.3	2630.3
15°	2566.6	2562.1	2562.1	2548.4	2539.3	2539.3	2539.3	2534.7
17.5°	2471.0	2466.5	2461.9	2452.8	2443.8	2443.8	2439.2	2443.8
20°	2370.9	2366.3	2357.3	2357.3	2352.7	2348.2	2339.1	2343.6
22.5°	2270.8	2261.7	2257.2	2257.2	2252.6	2252.6	2243.5	2243.5
25°	2166.1	2161.6	2157.1	2161.6	2152.4	2152.4	2143.4	2143.4
27.5°	2057.0	2052.3	2052.3	2052.3	2047.8	2052.3	2047.8	2047.8
30°	1947.7	1947.7	1943.2	1943.2	1947.7	1943.2	1947.7	1952.2
32.5°	1829.4	1829.4	1833.9	1833.9	1838.4	1838.4	1838.4	1838.4
35°	1706.6	1715.6	1715.6	1720.1	1724.8	1729.3	1729.3	1733.8
37.5°	1592.8	1597.3	1601.8	1606.5	1615.5	1615.5	1615.5	1615.5
40°	1469.8	1474.5	1483.5	1479.0	1497.2	1501.7	1497.2	1497.2
42.5°	1342.5	1351.5	1356.1	1365.2	1369.7	1378.9	1383.4	1383.4
45°	1224.2	1228.7	1237.7	1246.9	1251.4	1265.1	1265.1	1265.1
47.5°	1101.3	1110.4	1114.9	1124.1	1128.6	1142.3	1146.8	1142.3
50°	982.9	992.1	1001.1	1001.1	1014.8	1019.3	1028.5	1033.0
52.5°	869.2	873.7	882.8	887.4	896.5	905.5	910.2	914.7
55°	760.0	764.5	773.6	773.6	787.2	791.9	800.9	800.9
57.5°	659.9	664.4	673.4	668.9	678.1	687.1	687.1	682.6
60°	564.3	564.3	564.3	573.3	578.0	582.5	587.0	587.0
62.5°	464.2	473.2	477.9	477.9	482.4	486.9	486.9	482.4
65°	373.1	382.3	386.8	386.8	391.4	391.4	391.4	395.9
67.5°	282.1	282.1	282.1	286.7	282.1	282.1	282.1	282.1
70°	177.5	177.5	177.5	177.5	172.9	177.5	177.5	182.0
72.5°	95.6	95.6	95.6	95.6	95.6	95.6	95.6	95.6
75°	40.9	40.9	40.9	45.5	40.9	40.9	40.9	40.9
77.5°	18.2	13.7	18.2	18.2	13.7	13.7	13.7	13.7
80°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
82.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
85°	0.0	4.5	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)