

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: P585288

Luminaire Tested: **HC880D010-HM86080930-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P585288
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: HC880D010-HM86080930-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5494.8 lumens
Efficiency: N/A
Efficacy: 78.5 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

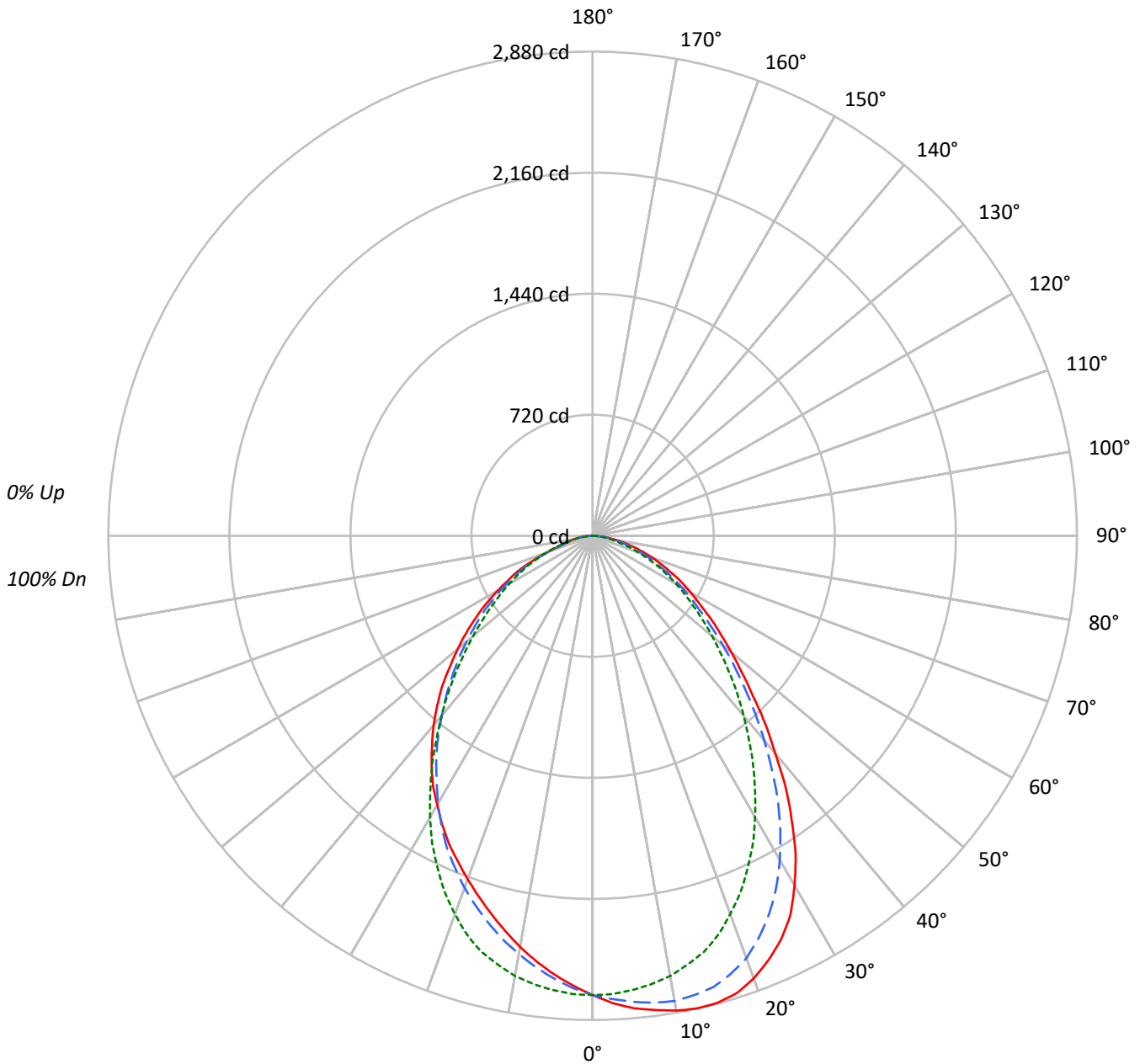
Input Watts (W): 70
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	84248	84248	84248
5°	87331	83966	81084
10°	89800	83240	77770
15°	91801	81767	74332
20°	91945	78573	71318
25°	90181	74207	68793
30°	85531	68814	65773
35°	77720	62670	62821
40°	67953	56239	59206
45°	58894	50094	55170
50°	51571	44495	50261
55°	45902	39434	45482
60°	41407	35425	39970
65°	37373	31149	34833
70°	33584	26245	25885
75°	29595	20814	19420
80°	24808	17225	18610
85°	19212	15108	16487



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	257.7	4.7
10°-20°	725.9	13.2
20°-30°	1037.5	18.9
30°-40°	1102.4	20.1
40°-50°	949.1	17.3
50°-60°	709.6	12.9
60°-70°	452.6	8.2
70°-80°	206.0	3.7
80°-90°	54.1	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°	2021.1	36.8
0°-40°	3123.5	56.8
0°-60°	4782.2	87.0
0°-90°	5494.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5494.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2732	2732	2732	2732	2732	
5°	2821	2782	2713	2643	2620	270
15°	2876	2779	2561	2387	2328	810
25°	2650	2484	2181	2049	2022	1213
35°	2065	1921	1665	1622	1669	1286
45°	1350	1277	1149	1180	1265	1050
55°	854	784	734	796	846	768
65°	512	454	427	446	477	511
75°	248	213	175	159	163	264
85°	54	47	43	47	47	65
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°	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1
2.5°	2782.5	2774.8	2778.6	2774.8	2778.6	2778.6	2770.8	2770.8	2770.8	2770.8	2759.2
5°	2821.3	2817.5	2817.5	2813.5	2809.6	2813.5	2809.6	2805.8	2798.1	2794.2	2782.5
7.5°	2844.6	2844.6	2844.6	2844.6	2840.8	2836.8	2832.9	2825.2	2817.5	2809.6	2801.9
10°	2867.9	2871.8	2867.9	2863.9	2860.1	2852.3	2848.5	2840.8	2829.1	2817.5	2809.6
12.5°	2879.5	2879.5	2875.6	2875.6	2867.9	2863.9	2852.3	2840.8	2829.1	2817.5	2798.1
15°	2875.6	2875.6	2871.8	2867.9	2856.2	2852.3	2844.6	2832.9	2813.5	2798.1	2778.6
17.5°	2852.3	2848.5	2840.8	2840.8	2825.2	2821.3	2813.5	2798.1	2778.6	2755.4	2732.1
20°	2801.9	2801.9	2798.1	2794.2	2778.6	2766.9	2759.2	2739.8	2724.2	2697.1	2673.8
22.5°	2732.1	2739.8	2732.1	2724.2	2704.9	2701.1	2689.4	2666.1	2642.8	2611.8	2584.5
25°	2650.5	2646.7	2642.8	2635.1	2619.5	2611.8	2596.2	2572.9	2549.7	2514.7	2483.7
27.5°	2545.8	2530.2	2530.2	2514.7	2503.1	2491.4	2483.7	2460.4	2429.4	2402.1	2363.4
30°	2402.1	2406.1	2386.7	2382.8	2363.4	2355.6	2340.1	2316.8	2289.7	2258.6	2227.6
32.5°	2247.0	2235.3	2235.3	2219.7	2204.3	2192.6	2188.7	2161.6	2138.3	2107.3	2076.2
35°	2064.6	2064.6	2052.9	2049.0	2033.5	2025.7	2014.2	1998.6	1971.4	1944.3	1920.9
37.5°	1886.0	1878.3	1874.5	1866.6	1855.0	1843.3	1843.3	1816.2	1812.3	1781.2	1750.2
40°	1688.1	1695.9	1688.1	1676.5	1672.6	1664.8	1660.9	1645.5	1633.8	1606.6	1587.2
42.5°	1521.2	1513.5	1513.5	1509.6	1494.1	1494.1	1486.4	1478.5	1459.1	1451.4	1428.1
45°	1350.5	1358.3	1346.7	1350.5	1335.0	1335.0	1335.0	1319.4	1304.0	1292.3	1276.7
47.5°	1203.0	1207.0	1207.0	1195.3	1191.4	1191.4	1183.6	1175.9	1164.3	1148.7	1137.0
50°	1075.0	1078.9	1071.1	1067.2	1059.4	1055.6	1055.6	1040.0	1032.3	1016.7	1009.0
52.5°	958.6	958.6	954.6	954.6	943.0	943.0	935.3	923.6	915.9	908.0	888.7
55°	853.8	853.8	849.9	846.0	846.0	834.3	830.5	818.9	811.0	795.6	783.9
57.5°	752.9	756.8	752.9	749.0	745.1	741.2	733.5	721.8	714.1	702.5	694.6
60°	671.4	671.4	667.5	663.6	655.9	651.9	648.1	640.3	628.6	620.9	609.2
62.5°	593.8	589.9	585.9	582.1	574.4	574.4	566.6	558.8	547.2	539.4	531.7
65°	512.2	512.2	508.4	508.4	504.5	496.8	492.8	488.9	473.5	469.5	454.1
67.5°	438.5	442.4	434.7	434.7	426.9	426.9	423.0	411.4	407.5	399.7	392.0
70°	372.5	372.5	372.5	368.7	360.9	357.1	353.1	345.4	341.5	333.8	326.0
72.5°	306.5	306.5	302.7	302.7	298.8	295.0	291.1	283.3	283.3	275.5	267.8
75°	248.4	248.4	244.5	240.7	236.7	236.7	232.8	229.0	221.2	217.3	213.4
77.5°	190.1	190.1	190.1	186.3	182.4	182.4	182.4	174.7	166.8	166.8	163.0
80°	139.7	139.7	135.8	135.8	132.0	132.0	132.0	128.1	124.1	120.3	116.4
82.5°	93.1	93.1	93.1	93.1	89.3	89.3	89.3	85.4	81.4	81.4	81.4
85°	54.3	54.3	54.3	54.3	50.4	50.4	50.4	50.4	50.4	46.6	46.6
87.5°	23.3	19.4	23.3	19.4	23.3	19.4	23.3	19.4	19.4	19.4	19.4
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°	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1
2.5°	2763.1	2759.2	2755.4	2751.5	2751.5	2747.5	2739.8	2735.9	2732.1	2728.2	2728.2
5°	2778.6	2774.8	2766.9	2759.2	2755.4	2747.5	2739.8	2732.1	2724.2	2712.6	2708.8
7.5°	2790.2	2778.6	2770.8	2755.4	2751.5	2743.7	2732.1	2720.4	2704.9	2689.4	2677.7
10°	2790.2	2774.8	2763.1	2743.7	2735.9	2728.2	2712.6	2693.2	2673.8	2658.4	2638.9
12.5°	2782.5	2763.1	2743.7	2724.2	2712.6	2701.1	2677.7	2658.4	2635.1	2611.8	2596.2
15°	2755.4	2732.1	2708.8	2685.5	2673.8	2658.4	2635.1	2607.8	2584.5	2561.3	2534.1
17.5°	2704.9	2681.6	2654.4	2627.2	2611.8	2600.1	2565.1	2545.8	2510.8	2487.5	2464.3
20°	2638.9	2611.8	2576.8	2549.7	2530.2	2518.7	2491.4	2456.5	2429.4	2394.4	2371.1
22.5°	2553.5	2518.7	2483.7	2456.5	2437.1	2421.6	2386.7	2351.7	2328.4	2297.4	2270.3
25°	2452.7	2417.7	2382.8	2344.0	2324.6	2309.0	2278.0	2247.0	2215.9	2181.0	2157.7
27.5°	2332.3	2293.5	2262.4	2227.6	2208.1	2184.9	2149.9	2118.9	2087.9	2064.6	2033.5
30°	2200.4	2157.7	2126.6	2091.7	2072.3	2052.9	2018.0	1986.9	1959.8	1932.6	1917.1
32.5°	2041.3	2010.2	1979.2	1944.3	1928.7	1917.1	1882.2	1851.2	1820.1	1796.8	1785.2
35°	1889.9	1855.0	1827.8	1796.8	1777.4	1765.8	1734.8	1707.5	1691.9	1664.8	1649.3
37.5°	1730.8	1703.6	1672.6	1641.5	1629.9	1618.2	1595.0	1567.8	1544.5	1525.1	1517.4
40°	1563.9	1540.7	1513.5	1494.1	1482.4	1470.8	1451.4	1432.0	1416.5	1397.1	1389.3
42.5°	1404.8	1389.3	1366.0	1342.7	1331.1	1327.2	1304.0	1288.4	1280.7	1272.9	1265.1
45°	1261.3	1238.0	1222.4	1207.0	1195.3	1187.5	1175.9	1164.3	1156.4	1148.7	1141.0
47.5°	1121.6	1102.1	1086.6	1075.0	1063.3	1059.4	1051.7	1040.0	1032.3	1032.3	1032.3
50°	993.5	978.0	962.4	954.6	950.7	943.0	935.3	931.3	927.5	927.5	927.5
52.5°	880.9	865.4	853.8	846.0	846.0	838.2	830.5	826.6	826.6	826.6	826.6
55°	776.2	764.5	756.8	749.0	741.2	737.3	737.3	737.3	733.5	733.5	737.3
57.5°	683.0	675.2	663.6	655.9	651.9	651.9	648.1	644.2	648.1	651.9	655.9
60°	597.6	589.9	585.9	574.4	574.4	574.4	570.5	570.5	570.5	574.4	578.2
62.5°	520.1	516.1	508.4	504.5	500.6	500.6	496.8	496.8	496.8	496.8	500.6
65°	450.2	442.4	434.7	434.7	434.7	430.8	430.8	423.0	426.9	426.9	423.0
67.5°	384.2	376.4	372.5	368.7	364.8	364.8	360.9	357.1	353.1	353.1	353.1
70°	322.1	314.4	314.4	306.5	306.5	302.7	298.8	298.8	295.0	291.1	287.1
72.5°	260.0	256.1	252.3	248.4	248.4	248.4	244.5	240.7	236.7	232.8	225.1
75°	205.7	205.7	198.0	194.0	194.0	190.1	186.3	182.4	178.5	174.7	170.7
77.5°	159.1	155.3	147.4	143.6	143.6	143.6	139.7	135.8	132.0	128.1	124.1
80°	116.4	112.6	108.7	104.8	104.8	104.8	100.9	100.9	97.0	97.0	97.0
82.5°	77.6	77.6	73.7	73.7	73.7	73.7	69.8	69.8	69.8	69.8	69.8
85°	46.6	46.6	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7
87.5°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1
2.5°	2720.4	2720.4	2712.6	2708.8	2704.9	2708.8	2701.1	2697.1	2693.2	2693.2	2689.4
5°	2697.1	2693.2	2677.7	2673.8	2669.9	2666.1	2658.4	2650.5	2642.8	2638.9	2635.1
7.5°	2666.1	2654.4	2638.9	2635.1	2631.1	2619.5	2607.8	2600.1	2588.5	2584.5	2576.8
10°	2623.4	2607.8	2596.2	2584.5	2576.8	2565.1	2553.5	2541.8	2526.4	2522.5	2510.8
12.5°	2572.9	2553.5	2530.2	2526.4	2514.7	2499.2	2483.7	2472.0	2460.4	2452.7	2441.0
15°	2510.8	2491.4	2468.1	2456.5	2444.8	2433.2	2413.8	2398.3	2386.7	2375.0	2363.4
17.5°	2437.1	2413.8	2394.4	2382.8	2375.0	2355.6	2340.1	2320.7	2309.0	2297.4	2285.7
20°	2347.8	2328.4	2301.3	2289.7	2285.7	2270.3	2250.8	2243.0	2227.6	2215.9	2208.1
22.5°	2247.0	2227.6	2204.3	2196.6	2181.0	2173.3	2153.9	2146.0	2138.3	2126.6	2122.7
25°	2134.4	2115.0	2095.6	2091.7	2080.0	2072.3	2060.7	2049.0	2049.0	2037.4	2037.4
27.5°	2018.0	1998.6	1983.0	1975.3	1971.4	1963.6	1952.0	1948.2	1944.3	1940.3	1940.3
30°	1893.8	1870.5	1862.8	1858.9	1855.0	1847.2	1843.3	1835.6	1839.5	1843.3	1839.5
32.5°	1761.9	1754.1	1738.6	1730.8	1734.8	1730.8	1723.1	1730.8	1726.9	1734.8	1738.6
35°	1633.8	1626.1	1618.2	1618.2	1610.5	1610.5	1610.5	1614.4	1622.2	1626.1	1633.8
37.5°	1509.6	1498.0	1494.1	1490.2	1494.1	1494.1	1494.1	1501.8	1509.6	1517.4	1529.1
40°	1377.7	1369.8	1369.8	1369.8	1369.8	1381.5	1377.7	1385.4	1393.2	1404.8	1416.5
42.5°	1253.4	1253.4	1257.4	1257.4	1257.4	1257.4	1265.1	1276.7	1288.4	1300.1	1311.7
45°	1137.0	1137.0	1137.0	1144.8	1144.8	1148.7	1164.3	1172.0	1179.7	1191.4	1203.0
47.5°	1028.4	1028.4	1032.3	1036.2	1040.0	1047.7	1055.6	1067.2	1078.9	1086.6	1098.3
50°	927.5	931.3	939.2	946.9	946.9	950.7	962.4	970.2	978.0	989.6	993.5
52.5°	830.5	838.2	846.0	849.9	853.8	861.5	865.4	877.0	880.9	892.6	896.5
55°	741.2	745.1	756.8	760.6	760.6	768.3	776.2	783.9	795.6	795.6	803.3
57.5°	659.8	663.6	671.4	675.2	671.4	683.0	686.9	694.6	698.5	706.3	710.2
60°	578.2	585.9	589.9	589.9	593.8	597.6	605.4	605.4	613.2	620.9	620.9
62.5°	500.6	504.5	508.4	512.2	516.1	512.2	523.9	523.9	531.7	535.5	543.3
65°	426.9	430.8	430.8	434.7	434.7	438.5	438.5	442.4	446.2	454.1	457.9
67.5°	353.1	353.1	353.1	357.1	353.1	357.1	357.1	360.9	360.9	368.7	372.5
70°	287.1	283.3	279.4	279.4	279.4	279.4	275.5	279.4	279.4	283.3	283.3
72.5°	221.2	217.3	213.4	209.5	209.5	205.7	201.8	205.7	205.7	209.5	209.5
75°	166.8	159.1	159.1	159.1	155.3	155.3	155.3	159.1	159.1	159.1	163.0
77.5°	124.1	124.1	120.3	120.3	120.3	124.1	124.1	128.1	128.1	128.1	128.1
80°	93.1	97.0	97.0	97.0	97.0	100.9	100.9	100.9	100.9	104.8	104.8
82.5°	69.8	69.8	69.8	69.8	73.7	73.7	73.7	73.7	73.7	73.7	73.7
85°	42.7	46.6	46.6	42.7	46.6	46.6	46.6	46.6	46.6	46.6	46.6
87.5°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
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: P585288

CATALOG NUMBER: HC880D010-HM86080930-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1	2732.1
2.5°	2685.5	2685.5	2685.5	2685.5	2681.6	2681.6	2681.6	2677.7
5°	2627.2	2627.2	2627.2	2619.5	2623.4	2623.4	2615.7	2619.5
7.5°	2569.1	2565.1	2561.3	2561.3	2557.4	2553.5	2549.7	2553.5
10°	2503.1	2491.4	2491.4	2487.5	2487.5	2479.8	2479.8	2483.7
12.5°	2429.4	2421.6	2421.6	2417.7	2413.8	2410.0	2406.1	2406.1
15°	2355.6	2347.8	2344.0	2340.1	2336.3	2328.4	2332.3	2328.4
17.5°	2281.9	2270.3	2270.3	2266.4	2262.4	2254.7	2254.7	2250.8
20°	2196.6	2192.6	2184.9	2188.7	2184.9	2177.1	2173.3	2173.3
22.5°	2111.1	2111.1	2107.3	2107.3	2103.3	2099.5	2095.6	2095.6
25°	2029.6	2025.7	2029.6	2029.6	2018.0	2018.0	2018.0	2021.9
27.5°	1936.5	1940.3	1936.5	1936.5	1936.5	1936.5	1940.3	1936.5
30°	1843.3	1843.3	1843.3	1847.2	1855.0	1851.2	1851.2	1847.2
32.5°	1742.5	1746.3	1746.3	1750.2	1754.1	1761.9	1761.9	1765.8
35°	1641.5	1649.3	1653.2	1649.3	1660.9	1660.9	1668.8	1668.8
37.5°	1536.8	1540.7	1548.4	1552.2	1560.1	1563.9	1567.8	1567.8
40°	1424.2	1439.8	1443.7	1447.5	1459.1	1459.1	1463.1	1470.8
42.5°	1319.4	1335.0	1338.8	1342.7	1350.5	1362.1	1358.3	1366.0
45°	1218.6	1230.1	1234.1	1238.0	1249.6	1253.4	1253.4	1265.1
47.5°	1109.9	1117.7	1121.6	1129.3	1137.0	1144.8	1152.6	1148.7
50°	1001.3	1012.9	1020.6	1024.6	1036.2	1040.0	1043.9	1047.7
52.5°	904.2	912.0	915.9	919.7	931.3	935.3	939.2	946.9
55°	811.0	814.9	822.7	818.9	830.5	834.3	838.2	846.0
57.5°	717.9	721.8	725.6	725.6	733.5	741.2	745.1	749.0
60°	628.6	636.5	640.3	640.3	640.3	648.1	648.1	648.1
62.5°	547.2	547.2	551.1	551.1	558.8	558.8	558.8	558.8
65°	461.8	465.7	469.5	469.5	477.4	473.5	481.2	477.4
67.5°	372.5	372.5	380.4	380.4	376.4	380.4	380.4	380.4
70°	283.3	283.3	287.1	287.1	287.1	287.1	287.1	287.1
72.5°	209.5	209.5	209.5	213.4	209.5	209.5	213.4	209.5
75°	163.0	163.0	163.0	163.0	163.0	163.0	163.0	163.0
77.5°	128.1	128.1	132.0	132.0	132.0	132.0	132.0	132.0
80°	104.8	104.8	104.8	104.8	108.7	104.8	104.8	104.8
82.5°	77.6	73.7	77.6	73.7	77.6	77.6	77.6	77.6
85°	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
87.5°	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
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)