

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: P585101

Luminaire Tested: **HC860D010-HM86080835-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P585101
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: HC860D010-HM86080835-81WWWB
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: 5894.8 lumens
Efficiency: N/A
Efficacy: 105.3 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

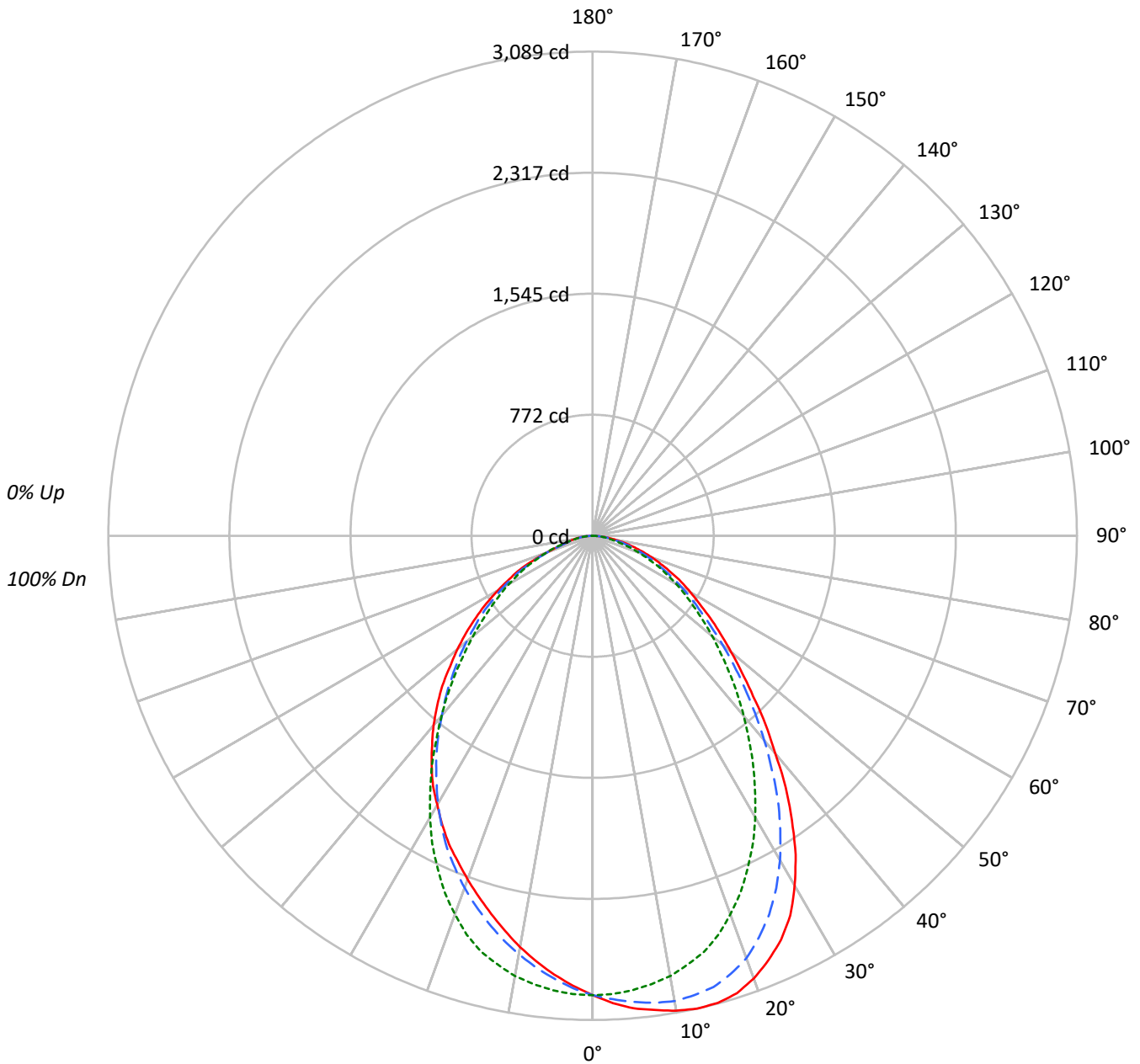
Input Watts (W): 56
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	90378	90378	90378
5°	93692	90080	86990
10°	96338	89299	83431
15°	98486	87718	79743
20°	98640	84293	76509
25°	96748	79610	73802
30°	91758	73827	70565
35°	83378	67233	67391
40°	72904	60329	63517
45°	63181	53740	59186
50°	55327	47733	53926
55°	49240	42300	48794
60°	44423	37997	42881
65°	40102	33418	37365
70°	36037	28148	27778
75°	31740	22315	20838
80°	26601	18468	19978
85°	20592	16204	17655



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.5	4.7
10°-20°	778.8	13.2
20°-30°	1113.0	18.9
30°-40°	1182.6	20.1
40°-50°	1018.2	17.3
50°-60°	761.2	12.9
60°-70°	485.6	8.2
70°-80°	221.0	3.7
80°-90°	58.0	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°	2168.3	36.8
0°-40°	3350.9	56.8
0°-60°	5130.3	87.0
0°-90°	5894.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5894.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2931	2931	2931	2931	2931	
5°	3027	2985	2910	2835	2810	290
15°	3085	2981	2748	2560	2498	869
25°	2844	2664	2340	2198	2169	1302
35°	2215	2061	1786	1740	1790	1379
45°	1449	1370	1232	1266	1357	1126
55°	916	841	787	854	908	824
65°	550	487	458	479	512	548
75°	266	229	187	171	175	283
85°	58	50	46	50	50	70
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°	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9
2.5°	2985.1	2976.7	2981.0	2976.7	2981.0	2981.0	2972.5	2972.5	2972.5	2972.5	2960.1
5°	3026.8	3022.5	3022.5	3018.3	3014.2	3018.3	3014.2	3010.0	3001.7	2997.6	2985.1
7.5°	3051.7	3051.7	3051.7	3051.7	3047.5	3043.4	3039.2	3030.9	3022.5	3014.2	3005.9
10°	3076.7	3080.8	3076.7	3072.5	3068.4	3060.0	3055.8	3047.5	3035.1	3022.5	3014.2
12.5°	3089.2	3089.2	3085.0	3085.0	3076.7	3072.5	3060.0	3047.5	3035.1	3022.5	3001.7
15°	3085.0	3085.0	3080.8	3076.7	3064.1	3060.0	3051.7	3039.2	3018.3	3001.7	2981.0
17.5°	3060.0	3055.8	3047.5	3047.5	3030.9	3026.8	3018.3	3001.7	2981.0	2955.9	2930.9
20°	3005.9	3005.9	3001.7	2997.6	2981.0	2968.4	2960.1	2939.3	2922.6	2893.4	2868.5
22.5°	2930.9	2939.3	2930.9	2922.6	2901.8	2897.7	2885.1	2860.2	2835.2	2801.8	2772.8
25°	2843.5	2839.3	2835.2	2826.9	2810.3	2801.8	2785.2	2760.2	2735.3	2697.8	2664.5
27.5°	2731.1	2714.4	2714.4	2697.8	2685.3	2672.8	2664.5	2639.6	2606.2	2577.0	2535.4
30°	2577.0	2581.2	2560.4	2556.3	2535.4	2527.1	2510.5	2485.5	2456.3	2423.1	2389.7
32.5°	2410.5	2398.0	2398.0	2381.4	2364.7	2352.2	2348.1	2318.9	2294.0	2260.7	2227.3
35°	2214.9	2214.9	2202.4	2198.3	2181.5	2173.2	2160.8	2144.1	2115.0	2085.8	2060.8
37.5°	2023.3	2015.0	2010.8	2002.5	1990.1	1977.5	1977.5	1948.4	1944.3	1911.0	1877.6
40°	1811.1	1819.4	1811.1	1798.5	1794.3	1786.0	1781.9	1765.3	1752.7	1723.6	1702.8
42.5°	1632.1	1623.6	1623.6	1619.5	1602.9	1602.9	1594.6	1586.2	1565.4	1557.1	1532.1
45°	1448.8	1457.1	1444.6	1448.8	1432.2	1432.2	1432.2	1415.6	1398.8	1386.4	1369.7
47.5°	1290.7	1294.8	1294.8	1282.2	1278.1	1278.1	1269.8	1261.5	1249.0	1232.3	1219.8
50°	1153.3	1157.4	1149.0	1144.9	1136.6	1132.4	1132.4	1115.8	1107.4	1090.8	1082.5
52.5°	1028.4	1028.4	1024.2	1024.2	1011.6	1011.6	1003.3	990.9	982.6	974.2	953.4
55°	915.9	915.9	911.8	907.6	907.6	895.2	890.9	878.4	870.1	853.5	840.9
57.5°	807.7	811.9	807.7	803.5	799.3	795.2	786.8	774.4	766.1	753.5	745.2
60°	720.3	720.3	716.0	711.9	703.6	699.4	695.3	687.0	674.4	666.1	653.6
62.5°	637.0	632.9	628.6	624.5	616.1	616.1	607.8	599.5	587.0	578.7	570.4
65°	549.6	549.6	545.4	545.4	541.2	532.9	528.7	524.6	508.0	503.8	487.1
67.5°	470.5	474.6	466.3	466.3	458.0	458.0	453.7	441.3	437.1	428.8	420.5
70°	399.7	399.7	399.7	395.5	387.2	383.0	378.9	370.6	366.3	358.0	349.7
72.5°	328.9	328.9	324.7	324.7	320.5	316.4	312.2	303.9	303.9	295.6	287.3
75°	266.4	266.4	262.3	258.1	254.0	254.0	249.8	245.7	237.3	233.1	228.9
77.5°	204.0	204.0	204.0	199.9	195.6	195.6	195.6	187.3	179.0	179.0	174.9
80°	149.8	149.8	145.7	145.7	141.5	141.5	141.5	137.4	133.2	129.1	124.9
82.5°	99.9	99.9	99.9	99.9	95.7	95.7	95.7	91.6	87.4	87.4	87.4
85°	58.2	58.2	58.2	58.2	54.1	54.1	54.1	54.1	54.1	49.9	49.9
87.5°	25.0	20.8	25.0	20.8	25.0	20.8	25.0	20.8	20.8	20.8	20.8
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°	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9
2.5°	2964.2	2960.1	2955.9	2951.8	2951.8	2947.6	2939.3	2935.1	2930.9	2926.8	2926.8
5°	2981.0	2976.7	2968.4	2960.1	2955.9	2947.6	2939.3	2930.9	2922.6	2910.1	2906.0
7.5°	2993.4	2981.0	2972.5	2955.9	2951.8	2943.5	2930.9	2918.4	2901.8	2885.1	2872.7
10°	2993.4	2976.7	2964.2	2943.5	2935.1	2926.8	2910.1	2889.3	2868.5	2851.9	2831.0
12.5°	2985.1	2964.2	2943.5	2922.6	2910.1	2897.7	2872.7	2851.9	2826.9	2801.8	2785.2
15°	2955.9	2930.9	2906.0	2881.0	2868.5	2851.9	2826.9	2797.7	2772.8	2747.7	2718.6
17.5°	2901.8	2876.8	2847.6	2818.6	2801.8	2789.4	2751.9	2731.1	2693.7	2668.6	2643.7
20°	2831.0	2801.8	2764.5	2735.3	2714.4	2702.0	2672.8	2635.4	2606.2	2568.7	2543.7
22.5°	2739.4	2702.0	2664.5	2635.4	2614.5	2597.9	2560.4	2522.9	2497.9	2464.7	2435.5
25°	2631.1	2593.8	2556.3	2514.6	2493.8	2477.2	2443.8	2410.5	2377.3	2339.8	2314.8
27.5°	2502.1	2460.5	2427.2	2389.7	2368.9	2343.9	2306.5	2273.1	2239.8	2214.9	2181.5
30°	2360.5	2314.8	2281.4	2244.1	2223.2	2202.4	2164.9	2131.6	2102.4	2073.4	2056.6
32.5°	2189.8	2156.6	2123.3	2085.8	2069.2	2056.6	2019.1	1985.9	1952.6	1927.6	1915.1
35°	2027.6	1990.1	1960.9	1927.6	1906.8	1894.3	1861.0	1831.8	1815.2	1786.0	1769.4
37.5°	1856.9	1827.7	1794.3	1761.0	1748.6	1736.1	1711.1	1682.0	1657.0	1636.2	1627.8
40°	1677.9	1652.8	1623.6	1602.9	1590.4	1577.9	1557.1	1536.2	1519.6	1498.7	1490.4
42.5°	1507.1	1490.4	1465.5	1440.5	1428.0	1423.9	1398.8	1382.2	1373.9	1365.5	1357.2
45°	1353.1	1328.1	1311.4	1294.8	1282.2	1273.9	1261.5	1249.0	1240.7	1232.3	1224.0
47.5°	1203.2	1182.4	1165.7	1153.3	1140.7	1136.6	1128.3	1115.8	1107.4	1107.4	1107.4
50°	1065.7	1049.1	1032.5	1024.2	1020.0	1011.6	1003.3	999.2	995.0	995.0	995.0
52.5°	945.1	928.4	915.9	907.6	907.6	899.3	890.9	886.7	886.7	886.7	886.7
55°	832.6	820.2	811.9	803.5	795.2	791.0	791.0	791.0	786.8	786.8	791.0
57.5°	732.8	724.5	711.9	703.6	699.4	699.4	695.3	691.1	695.3	699.4	703.6
60°	641.2	632.9	628.6	616.1	616.1	616.1	612.0	612.0	612.0	616.1	620.3
62.5°	557.9	553.7	545.4	541.2	537.0	537.0	532.9	532.9	532.9	532.9	537.0
65°	482.9	474.6	466.3	466.3	466.3	462.2	462.2	453.7	458.0	458.0	453.7
67.5°	412.1	403.8	399.7	395.5	391.3	391.3	387.2	383.0	378.9	378.9	378.9
70°	345.6	337.3	337.3	328.9	328.9	324.7	320.5	320.5	316.4	312.2	308.1
72.5°	278.9	274.7	270.6	266.4	266.4	266.4	262.3	258.1	254.0	249.8	241.5
75°	220.6	220.6	212.3	208.2	208.2	204.0	199.9	195.6	191.5	187.3	183.2
77.5°	170.7	166.6	158.2	154.1	154.1	154.1	149.8	145.7	141.5	137.4	133.2
80°	124.9	120.8	116.6	112.5	112.5	112.5	108.2	108.2	104.0	104.0	104.0
82.5°	83.3	83.3	79.1	79.1	79.1	79.1	75.0	75.0	75.0	75.0	75.0
85°	49.9	49.9	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8
87.5°	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
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°	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9
2.5°	2918.4	2918.4	2910.1	2906.0	2901.8	2906.0	2897.7	2893.4	2889.3	2889.3	2885.1
5°	2893.4	2889.3	2872.7	2868.5	2864.4	2860.2	2851.9	2843.5	2835.2	2831.0	2826.9
7.5°	2860.2	2847.6	2831.0	2826.9	2822.7	2810.3	2797.7	2789.4	2776.9	2772.8	2764.5
10°	2814.4	2797.7	2785.2	2772.8	2764.5	2751.9	2739.4	2727.0	2710.3	2706.1	2693.7
12.5°	2760.2	2739.4	2714.4	2710.3	2697.8	2681.2	2664.5	2652.0	2639.6	2631.1	2618.7
15°	2693.7	2672.8	2647.9	2635.4	2622.8	2610.4	2589.6	2572.9	2560.4	2548.0	2535.4
17.5°	2614.5	2589.6	2568.7	2556.3	2548.0	2527.1	2510.5	2489.6	2477.2	2464.7	2452.1
20°	2518.8	2497.9	2468.9	2456.3	2452.1	2435.5	2414.6	2406.3	2389.7	2377.3	2368.9
22.5°	2410.5	2389.7	2364.7	2356.4	2339.8	2331.5	2310.6	2302.3	2294.0	2281.4	2277.3
25°	2289.8	2269.0	2248.2	2244.1	2231.5	2223.2	2210.7	2198.3	2198.3	2185.7	2185.7
27.5°	2164.9	2144.1	2127.4	2119.1	2115.0	2106.6	2094.1	2090.0	2085.8	2081.7	2081.7
30°	2031.7	2006.7	1998.4	1994.2	1990.1	1981.8	1977.5	1969.2	1973.4	1977.5	1973.4
32.5°	1890.1	1881.8	1865.2	1856.9	1861.0	1856.9	1848.4	1856.9	1852.7	1861.0	1865.2
35°	1752.7	1744.4	1736.1	1736.1	1727.8	1727.8	1727.8	1731.9	1740.2	1744.4	1752.7
37.5°	1619.5	1607.0	1602.9	1598.7	1602.9	1602.9	1602.9	1611.2	1619.5	1627.8	1640.4
40°	1478.0	1469.7	1469.7	1469.7	1469.7	1482.1	1478.0	1486.3	1494.6	1507.1	1519.6
42.5°	1344.7	1344.7	1348.9	1348.9	1348.9	1348.9	1357.2	1369.7	1382.2	1394.7	1407.1
45°	1219.8	1219.8	1219.8	1228.1	1228.1	1232.3	1249.0	1257.3	1265.6	1278.1	1290.7
47.5°	1103.2	1103.2	1107.4	1111.6	1115.8	1124.1	1132.4	1144.9	1157.4	1165.7	1178.2
50°	995.0	999.2	1007.5	1015.8	1015.8	1020.0	1032.5	1040.8	1049.1	1061.6	1065.7
52.5°	890.9	899.3	907.6	911.8	915.9	924.2	928.4	940.9	945.1	957.6	961.7
55°	795.2	799.3	811.9	816.0	816.0	824.3	832.6	840.9	853.5	853.5	861.8
57.5°	707.7	711.9	720.3	724.5	720.3	732.8	736.9	745.2	749.4	757.7	761.9
60°	620.3	628.6	632.9	632.9	637.0	641.2	649.5	649.5	657.8	666.1	666.1
62.5°	537.0	541.2	545.4	549.6	553.7	549.6	562.1	562.1	570.4	574.5	582.8
65°	458.0	462.2	462.2	466.3	466.3	470.5	470.5	474.6	478.8	487.1	491.2
67.5°	378.9	378.9	378.9	383.0	378.9	383.0	383.0	387.2	387.2	395.5	399.7
70°	308.1	303.9	299.8	299.8	299.8	299.8	295.6	299.8	299.8	303.9	303.9
72.5°	237.3	233.1	228.9	224.8	224.8	220.6	216.5	220.6	220.6	224.8	224.8
75°	179.0	170.7	170.7	170.7	166.6	166.6	166.6	170.7	170.7	170.7	174.9
77.5°	133.2	133.2	129.1	129.1	129.1	133.2	133.2	137.4	137.4	137.4	137.4
80°	99.9	104.0	104.0	104.0	104.0	108.2	108.2	108.2	108.2	112.5	112.5
82.5°	75.0	75.0	75.0	75.0	79.1	79.1	79.1	79.1	79.1	79.1	79.1
85°	45.8	49.9	49.9	45.8	49.9	49.9	49.9	49.9	49.9	49.9	49.9
87.5°	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
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: P585101

CATALOG NUMBER: HC860D010-HM86080835-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9	2930.9
2.5°	2881.0	2881.0	2881.0	2881.0	2876.8	2876.8	2876.8	2872.7
5°	2818.6	2818.6	2818.6	2810.3	2814.4	2814.4	2806.0	2810.3
7.5°	2756.0	2751.9	2747.7	2747.7	2743.6	2739.4	2735.3	2739.4
10°	2685.3	2672.8	2672.8	2668.6	2668.6	2660.3	2660.3	2664.5
12.5°	2606.2	2597.9	2597.9	2593.8	2589.6	2585.3	2581.2	2581.2
15°	2527.1	2518.8	2514.6	2510.5	2506.3	2497.9	2502.1	2497.9
17.5°	2448.0	2435.5	2435.5	2431.4	2427.2	2418.9	2418.9	2414.6
20°	2356.4	2352.2	2343.9	2348.1	2343.9	2335.6	2331.5	2331.5
22.5°	2264.8	2264.8	2260.7	2260.7	2256.5	2252.4	2248.2	2248.2
25°	2177.4	2173.2	2177.4	2177.4	2164.9	2164.9	2164.9	2169.1
27.5°	2077.5	2081.7	2077.5	2077.5	2077.5	2077.5	2081.7	2077.5
30°	1977.5	1977.5	1977.5	1981.8	1990.1	1985.9	1985.9	1981.8
32.5°	1869.3	1873.5	1873.5	1877.6	1881.8	1890.1	1890.1	1894.3
35°	1761.0	1769.4	1773.6	1769.4	1781.9	1781.9	1790.2	1790.2
37.5°	1648.7	1652.8	1661.1	1665.3	1673.6	1677.9	1682.0	1682.0
40°	1527.9	1544.5	1548.8	1552.9	1565.4	1565.4	1569.5	1577.9
42.5°	1415.6	1432.2	1436.3	1440.5	1448.8	1461.4	1457.1	1465.5
45°	1307.3	1319.7	1323.9	1328.1	1340.6	1344.7	1344.7	1357.2
47.5°	1190.7	1199.1	1203.2	1211.5	1219.8	1228.1	1236.4	1232.3
50°	1074.2	1086.6	1094.9	1099.1	1111.6	1115.8	1120.0	1124.1
52.5°	970.0	978.3	982.6	986.7	999.2	1003.3	1007.5	1015.8
55°	870.1	874.3	882.6	878.4	890.9	895.2	899.3	907.6
57.5°	770.2	774.4	778.5	778.5	786.8	795.2	799.3	803.5
60°	674.4	682.8	687.0	687.0	687.0	695.3	695.3	695.3
62.5°	587.0	587.0	591.2	591.2	599.5	599.5	599.5	599.5
65°	495.4	499.5	503.8	503.8	512.1	508.0	516.3	512.1
67.5°	399.7	399.7	408.0	408.0	403.8	408.0	408.0	408.0
70°	303.9	303.9	308.1	308.1	308.1	308.1	308.1	308.1
72.5°	224.8	224.8	224.8	228.9	224.8	224.8	228.9	224.8
75°	174.9	174.9	174.9	174.9	174.9	174.9	174.9	174.9
77.5°	137.4	137.4	141.5	141.5	141.5	141.5	141.5	141.5
80°	112.5	112.5	112.5	112.5	116.6	112.5	112.5	112.5
82.5°	83.3	79.1	83.3	79.1	83.3	83.3	83.3	83.3
85°	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9
87.5°	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
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)