

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: P585220

Luminaire Tested: **HC880D010-HM86080830-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P585220
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-HM86080830-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5854.5 lumens
Efficiency: N/A
Efficacy: 83.6 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

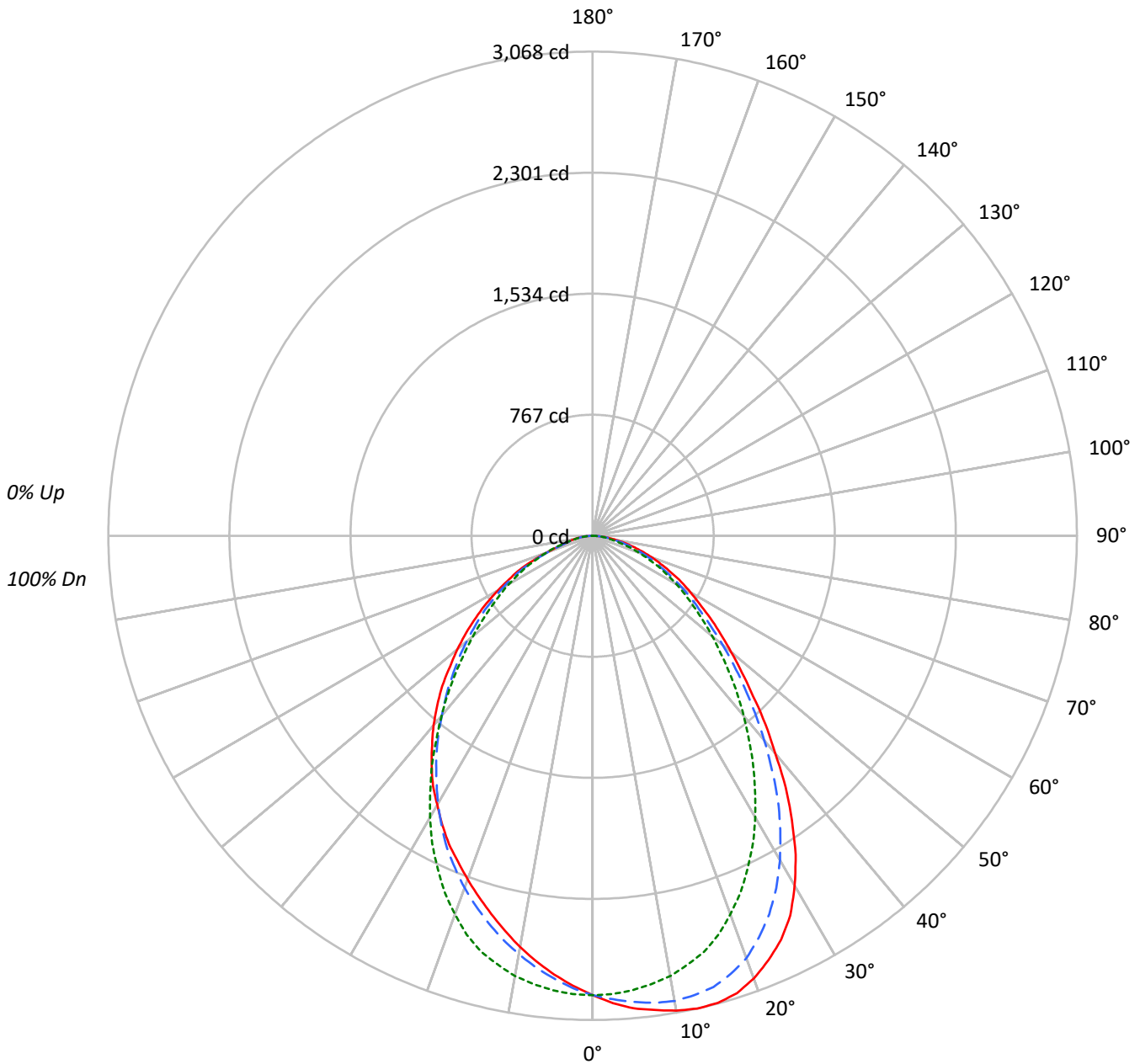
Input Watts (W): 70
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P585220

CATALOG NUMBER: HC880D010-HM86080830-81WWWB

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°	89761	89761	89761
5°	93045	89464	86390
10°	95677	88685	82858
15°	97809	87121	79197
20°	97964	83715	75984
25°	96084	79065	73295
30°	91132	73318	70081
35°	82802	66773	66928
40°	72401	59918	63082
45°	62749	53369	58785
50°	54948	47407	53557
55°	48907	42009	48461
60°	44114	37744	42585
65°	39824	33184	37103
70°	35784	27958	27580
75°	31537	22172	20695
80°	26442	18344	19818
85°	20485	16098	17549



TEST NUMBER: P585220

CATALOG NUMBER: HC880D010-HM86080830-81WWWB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	274.6	4.7
10°-20°	773.5	13.2
20°-30°	1105.4	18.9
30°-40°	1174.5	20.1
40°-50°	1011.2	17.3
50°-60°	756.0	12.9
60°-70°	482.2	8.2
70°-80°	219.5	3.7
80°-90°	57.6	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°	2153.4	36.8
0°-40°	3327.9	56.8
0°-60°	5095.2	87.0
0°-90°	5854.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5854.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2911	2911	2911	2911	2911	
5°	3006	2965	2890	2816	2791	288
15°	3064	2960	2729	2543	2481	863
25°	2824	2646	2324	2183	2154	1293
35°	2200	2047	1774	1728	1778	1370
45°	1439	1360	1224	1257	1348	1119
55°	910	835	781	848	901	818
65°	546	484	455	476	508	544
75°	265	228	186	170	174	281
85°	58	50	46	50	50	70
90°	0	0	0	0	0	



TEST NUMBER: P585220

CATALOG NUMBER: HC880D010-HM86080830-81WWWB

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9
2.5°	2964.7	2956.3	2960.5	2956.3	2960.5	2960.5	2952.2	2952.2	2952.2	2952.2	2939.8
5°	3005.9	3001.9	3001.9	2997.7	2993.5	2997.7	2993.5	2989.4	2981.2	2977.0	2964.7
7.5°	3030.8	3030.8	3030.8	3030.8	3026.6	3022.6	3018.4	3010.1	3001.9	2993.5	2985.3
10°	3055.6	3059.8	3055.6	3051.4	3047.3	3039.1	3034.9	3026.6	3014.2	3001.9	2993.5
12.5°	3068.0	3068.0	3063.8	3063.8	3055.6	3051.4	3039.1	3026.6	3014.2	3001.9	2981.2
15°	3063.8	3063.8	3059.8	3055.6	3043.1	3039.1	3030.8	3018.4	2997.7	2981.2	2960.5
17.5°	3039.1	3034.9	3026.6	3026.6	3010.1	3005.9	2997.7	2981.2	2960.5	2935.6	2910.9
20°	2985.3	2985.3	2981.2	2977.0	2960.5	2948.1	2939.8	2919.1	2902.6	2873.7	2848.8
22.5°	2910.9	2919.1	2910.9	2902.6	2881.9	2877.7	2865.4	2840.5	2815.8	2782.7	2753.7
25°	2824.0	2820.0	2815.8	2807.5	2790.9	2782.7	2766.2	2741.4	2716.5	2679.3	2646.2
27.5°	2712.3	2695.8	2695.8	2679.3	2666.9	2654.6	2646.2	2621.4	2588.3	2559.4	2518.1
30°	2559.4	2563.6	2542.9	2538.8	2518.1	2509.7	2493.2	2468.5	2439.5	2406.4	2373.4
32.5°	2394.1	2381.6	2381.6	2365.0	2348.5	2336.1	2332.0	2303.1	2278.2	2245.2	2212.1
35°	2199.6	2199.6	2187.3	2183.1	2166.6	2158.4	2145.9	2129.4	2100.5	2071.5	2046.7
37.5°	2009.5	2001.2	1997.0	1988.8	1976.4	1964.0	1964.0	1935.1	1930.9	1897.9	1864.8
40°	1798.6	1806.9	1798.6	1786.2	1782.1	1773.8	1769.7	1753.2	1740.7	1711.8	1691.1
42.5°	1620.8	1612.5	1612.5	1608.4	1591.8	1591.8	1583.6	1575.3	1554.6	1546.4	1521.6
45°	1438.9	1447.1	1434.8	1438.9	1422.4	1422.4	1422.4	1405.9	1389.2	1376.9	1360.3
47.5°	1281.7	1285.9	1285.9	1273.5	1269.4	1269.4	1261.1	1252.8	1240.5	1223.8	1211.5
50°	1145.4	1149.4	1141.2	1137.0	1128.8	1124.7	1124.7	1108.1	1099.8	1083.3	1075.1
52.5°	1021.2	1021.2	1017.2	1017.2	1004.7	1004.7	996.5	984.0	975.8	967.5	946.8
55°	909.7	909.7	905.5	901.4	901.4	889.0	884.9	872.5	864.2	847.6	835.3
57.5°	802.1	806.3	802.1	798.1	793.9	789.7	781.4	769.0	760.8	748.4	740.2
60°	715.3	715.3	711.1	707.1	698.8	694.6	690.5	682.2	669.9	661.6	649.2
62.5°	632.7	628.5	624.3	620.2	612.0	612.0	603.7	595.5	583.0	574.8	566.4
65°	545.8	545.8	541.7	541.7	537.5	529.2	525.1	521.0	504.5	500.3	483.8
67.5°	467.3	471.3	463.1	463.1	454.8	454.8	450.6	438.3	434.1	425.9	417.6
70°	396.9	396.9	396.9	392.8	384.5	380.4	376.3	368.0	363.8	355.6	347.3
72.5°	326.6	326.6	322.5	322.5	318.4	314.3	310.1	301.9	301.9	293.6	285.2
75°	264.7	264.7	260.5	256.3	252.2	252.2	248.1	244.0	235.7	231.5	227.5
77.5°	202.6	202.6	202.6	198.4	194.3	194.3	194.3	186.1	177.8	177.8	173.7
80°	148.9	148.9	144.7	144.7	140.5	140.5	140.5	136.5	132.3	128.2	124.0
82.5°	99.3	99.3	99.3	99.3	95.1	95.1	95.1	91.0	86.8	86.8	86.8
85°	57.9	57.9	57.9	57.9	53.7	53.7	53.7	53.7	53.7	49.6	49.6
87.5°	24.9	20.7	24.9	20.7	24.9	20.7	24.9	20.7	20.7	20.7	20.7
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: P585220

CATALOG NUMBER: HC880D010-HM86080830-81WWWB

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9
2.5°	2944.0	2939.8	2935.6	2931.6	2931.6	2927.4	2919.1	2915.0	2910.9	2906.7	2906.7
5°	2960.5	2956.3	2948.1	2939.8	2935.6	2927.4	2919.1	2910.9	2902.6	2890.2	2886.1
7.5°	2972.9	2960.5	2952.2	2935.6	2931.6	2923.3	2910.9	2898.4	2881.9	2865.4	2853.0
10°	2972.9	2956.3	2944.0	2923.3	2915.0	2906.7	2890.2	2869.5	2848.8	2832.3	2811.6
12.5°	2964.7	2944.0	2923.3	2902.6	2890.2	2877.7	2853.0	2832.3	2807.5	2782.7	2766.2
15°	2935.6	2910.9	2886.1	2861.2	2848.8	2832.3	2807.5	2778.6	2753.7	2729.0	2700.0
17.5°	2881.9	2857.2	2828.2	2799.3	2782.7	2770.3	2733.0	2712.3	2675.1	2650.4	2625.5
20°	2811.6	2782.7	2745.5	2716.5	2695.8	2683.5	2654.6	2617.3	2588.3	2551.1	2526.4
22.5°	2720.7	2683.5	2646.2	2617.3	2596.7	2580.1	2542.9	2505.7	2480.8	2447.8	2418.8
25°	2613.2	2576.0	2538.8	2497.4	2476.7	2460.2	2427.1	2394.1	2361.0	2323.8	2298.9
27.5°	2485.0	2443.6	2410.6	2373.4	2352.7	2327.8	2290.6	2257.6	2224.5	2199.6	2166.6
30°	2344.4	2298.9	2265.9	2228.7	2208.0	2187.3	2150.1	2117.0	2088.0	2059.1	2042.6
32.5°	2174.9	2141.7	2108.7	2071.5	2054.9	2042.6	2005.4	1972.3	1939.1	1914.4	1902.0
35°	2013.6	1976.4	1947.5	1914.4	1893.7	1881.4	1848.2	1819.3	1802.8	1773.8	1757.2
37.5°	1844.1	1815.1	1782.1	1749.0	1736.7	1724.2	1699.4	1670.4	1645.6	1625.0	1616.7
40°	1666.3	1641.5	1612.5	1591.8	1579.5	1567.1	1546.4	1525.7	1509.2	1488.5	1480.2
42.5°	1496.8	1480.2	1455.5	1430.6	1418.2	1414.1	1389.2	1372.7	1364.5	1356.2	1348.0
45°	1343.8	1319.0	1302.4	1285.9	1273.5	1265.2	1252.8	1240.5	1232.2	1223.8	1215.6
47.5°	1194.9	1174.3	1157.7	1145.4	1132.9	1128.8	1120.5	1108.1	1099.8	1099.8	1099.8
50°	1058.4	1041.9	1025.4	1017.2	1013.0	1004.7	996.5	992.3	988.2	988.2	988.2
52.5°	938.6	922.1	909.7	901.4	901.4	893.1	884.9	880.7	880.7	880.7	880.7
55°	826.9	814.6	806.3	798.1	789.7	785.6	785.6	785.6	781.4	781.4	785.6
57.5°	727.7	719.5	707.1	698.8	694.6	694.6	690.5	686.4	690.5	694.6	698.8
60°	636.7	628.5	624.3	612.0	612.0	612.0	607.8	607.8	607.8	612.0	616.0
62.5°	554.1	549.9	541.7	537.5	533.4	533.4	529.2	529.2	529.2	529.2	533.4
65°	479.6	471.3	463.1	463.1	463.1	459.0	459.0	450.6	454.8	454.8	450.6
67.5°	409.4	401.0	396.9	392.8	388.7	388.7	384.5	380.4	376.3	376.3	376.3
70°	343.1	334.9	334.9	326.6	326.6	322.5	318.4	318.4	314.3	310.1	305.9
72.5°	277.0	272.9	268.7	264.7	264.7	264.7	260.5	256.3	252.2	248.1	239.8
75°	219.1	219.1	210.9	206.8	206.8	202.6	198.4	194.3	190.2	186.1	181.9
77.5°	169.6	165.4	157.1	153.0	153.0	153.0	148.9	144.7	140.5	136.5	132.3
80°	124.0	119.9	115.8	111.6	111.6	111.6	107.5	107.5	103.3	103.3	103.3
82.5°	82.8	82.8	78.6	78.6	78.6	78.6	74.4	74.4	74.4	74.4	74.4
85°	49.6	49.6	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
87.5°	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7
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: P585220

CATALOG NUMBER: HC880D010-HM86080830-81WWWB

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9
2.5°	2898.4	2898.4	2890.2	2886.1	2881.9	2886.1	2877.7	2873.7	2869.5	2869.5	2865.4
5°	2873.7	2869.5	2853.0	2848.8	2844.7	2840.5	2832.3	2824.0	2815.8	2811.6	2807.5
7.5°	2840.5	2828.2	2811.6	2807.5	2803.3	2790.9	2778.6	2770.3	2757.9	2753.7	2745.5
10°	2795.1	2778.6	2766.2	2753.7	2745.5	2733.0	2720.7	2708.3	2691.8	2687.6	2675.1
12.5°	2741.4	2720.7	2695.8	2691.8	2679.3	2662.8	2646.2	2633.9	2621.4	2613.2	2600.8
15°	2675.1	2654.6	2629.7	2617.3	2604.9	2592.5	2571.8	2555.3	2542.9	2530.4	2518.1
17.5°	2596.7	2571.8	2551.1	2538.8	2530.4	2509.7	2493.2	2472.5	2460.2	2447.8	2435.4
20°	2501.5	2480.8	2452.0	2439.5	2435.4	2418.8	2398.2	2389.9	2373.4	2361.0	2352.7
22.5°	2394.1	2373.4	2348.5	2340.3	2323.8	2315.5	2294.8	2286.6	2278.2	2265.9	2261.7
25°	2274.1	2253.4	2232.8	2228.7	2216.2	2208.0	2195.6	2183.1	2183.1	2170.8	2170.8
27.5°	2150.1	2129.4	2112.9	2104.5	2100.5	2092.2	2079.8	2075.6	2071.5	2067.4	2067.4
30°	2017.7	1993.0	1984.7	1980.5	1976.4	1968.2	1964.0	1955.8	1959.8	1964.0	1959.8
32.5°	1877.2	1868.9	1852.3	1844.1	1848.2	1844.1	1835.8	1844.1	1840.0	1848.2	1852.3
35°	1740.7	1732.5	1724.2	1724.2	1716.0	1716.0	1716.0	1720.0	1728.3	1732.5	1740.7
37.5°	1608.4	1596.0	1591.8	1587.8	1591.8	1591.8	1591.8	1600.2	1608.4	1616.7	1629.0
40°	1467.8	1459.6	1459.6	1459.6	1459.6	1472.0	1467.8	1476.1	1484.3	1496.8	1509.2
42.5°	1335.5	1335.5	1339.6	1339.6	1339.6	1339.6	1348.0	1360.3	1372.7	1385.2	1397.6
45°	1211.5	1211.5	1211.5	1219.8	1219.8	1223.8	1240.5	1248.7	1257.0	1269.4	1281.7
47.5°	1095.7	1095.7	1099.8	1104.0	1108.1	1116.4	1124.7	1137.0	1149.4	1157.7	1170.1
50°	988.2	992.3	1000.7	1008.9	1008.9	1013.0	1025.4	1033.7	1041.9	1054.4	1058.4
52.5°	884.9	893.1	901.4	905.5	909.7	917.9	922.1	934.4	938.6	951.0	955.1
55°	789.7	793.9	806.3	810.4	810.4	818.6	826.9	835.3	847.6	847.6	855.8
57.5°	702.9	707.1	715.3	719.5	715.3	727.7	731.8	740.2	744.3	752.5	756.7
60°	616.0	624.3	628.5	628.5	632.7	636.7	645.0	645.0	653.2	661.6	661.6
62.5°	533.4	537.5	541.7	545.8	549.9	545.8	558.2	558.2	566.4	570.6	578.9
65°	454.8	459.0	459.0	463.1	463.1	467.3	467.3	471.3	475.5	483.8	487.8
67.5°	376.3	376.3	376.3	380.4	376.3	380.4	380.4	384.5	384.5	392.8	396.9
70°	305.9	301.9	297.7	297.7	297.7	297.7	293.6	297.7	297.7	301.9	301.9
72.5°	235.7	231.5	227.5	223.3	223.3	219.1	215.0	219.1	219.1	223.3	223.3
75°	177.8	169.6	169.6	169.6	165.4	165.4	165.4	169.6	169.6	169.6	173.7
77.5°	132.3	132.3	128.2	128.2	128.2	132.3	132.3	136.5	136.5	136.5	136.5
80°	99.3	103.3	103.3	103.3	103.3	107.5	107.5	107.5	107.5	111.6	111.6
82.5°	74.4	74.4	74.4	74.4	78.6	78.6	78.6	78.6	78.6	78.6	78.6
85°	45.5	49.6	49.6	45.5	49.6	49.6	49.6	49.6	49.6	49.6	49.6
87.5°	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7
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: P585220

CATALOG NUMBER: HC880D010-HM86080830-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9	2910.9
2.5°	2861.2	2861.2	2861.2	2861.2	2857.2	2857.2	2857.2	2853.0
5°	2799.3	2799.3	2799.3	2790.9	2795.1	2795.1	2786.8	2790.9
7.5°	2737.2	2733.0	2729.0	2729.0	2724.8	2720.7	2716.5	2720.7
10°	2666.9	2654.6	2654.6	2650.4	2650.4	2642.1	2642.1	2646.2
12.5°	2588.3	2580.1	2580.1	2576.0	2571.8	2567.6	2563.6	2563.6
15°	2509.7	2501.5	2497.4	2493.2	2489.2	2480.8	2485.0	2480.8
17.5°	2431.3	2418.8	2418.8	2414.7	2410.6	2402.3	2402.3	2398.2
20°	2340.3	2336.1	2327.8	2332.0	2327.8	2319.6	2315.5	2315.5
22.5°	2249.4	2249.4	2245.2	2245.2	2241.0	2236.9	2232.8	2232.8
25°	2162.4	2158.4	2162.4	2162.4	2150.1	2150.1	2150.1	2154.2
27.5°	2063.3	2067.4	2063.3	2063.3	2063.3	2063.3	2067.4	2063.3
30°	1964.0	1964.0	1964.0	1968.2	1976.4	1972.3	1972.3	1968.2
32.5°	1856.5	1860.7	1860.7	1864.8	1868.9	1877.2	1877.2	1881.4
35°	1749.0	1757.2	1761.4	1757.2	1769.7	1769.7	1777.9	1777.9
37.5°	1637.4	1641.5	1649.7	1653.9	1662.2	1666.3	1670.4	1670.4
40°	1517.4	1534.0	1538.1	1542.3	1554.6	1554.6	1558.8	1567.1
42.5°	1405.9	1422.4	1426.4	1430.6	1438.9	1451.3	1447.1	1455.5
45°	1298.3	1310.8	1314.8	1319.0	1331.4	1335.5	1335.5	1348.0
47.5°	1182.6	1190.8	1194.9	1203.3	1211.5	1219.8	1228.0	1223.8
50°	1066.8	1079.1	1087.5	1091.6	1104.0	1108.1	1112.2	1116.4
52.5°	963.4	971.7	975.8	980.0	992.3	996.5	1000.7	1008.9
55°	864.2	868.3	876.5	872.5	884.9	889.0	893.1	901.4
57.5°	764.9	769.0	773.2	773.2	781.4	789.7	793.9	798.1
60°	669.9	678.1	682.2	682.2	682.2	690.5	690.5	690.5
62.5°	583.0	583.0	587.1	587.1	595.5	595.5	595.5	595.5
65°	492.0	496.2	500.3	500.3	508.5	504.5	512.7	508.5
67.5°	396.9	396.9	405.2	405.2	401.0	405.2	405.2	405.2
70°	301.9	301.9	305.9	305.9	305.9	305.9	305.9	305.9
72.5°	223.3	223.3	223.3	227.5	223.3	223.3	227.5	223.3
75°	173.7	173.7	173.7	173.7	173.7	173.7	173.7	173.7
77.5°	136.5	136.5	140.5	140.5	140.5	140.5	140.5	140.5
80°	111.6	111.6	111.6	111.6	115.8	111.6	111.6	111.6
82.5°	82.8	78.6	82.8	78.6	82.8	82.8	82.8	82.8
85°	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6
87.5°	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7
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)