

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: P585211

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P585211  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC880D010-HM86080830-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5887.6 lumens  
Efficiency: N/A  
Efficacy: 84.1 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

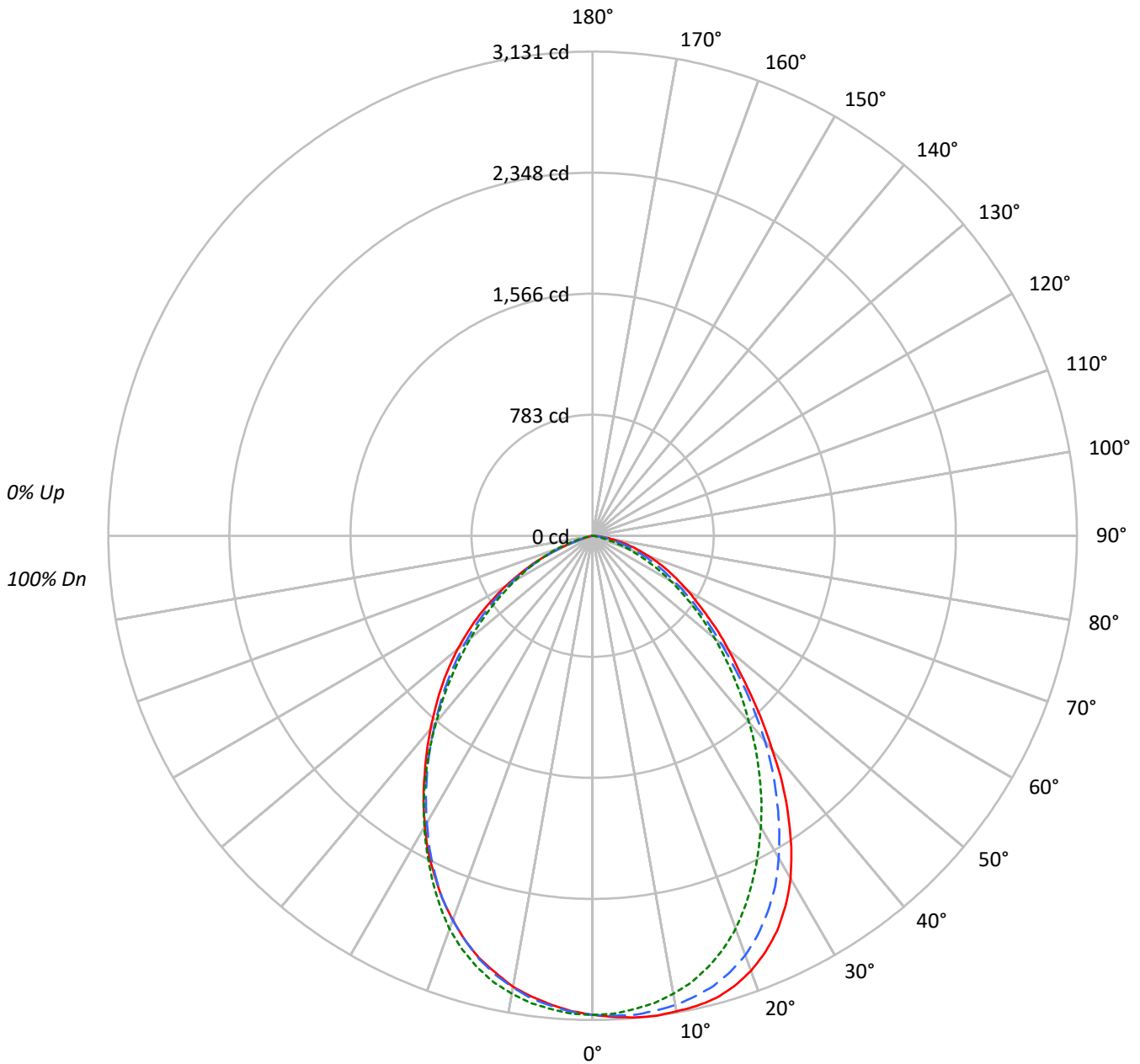
Input Watts (W): 70  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88								
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77								
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67								
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59								
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52								
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47								
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42								
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38								
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35								
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32								

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	95525	95525	95525
5°	96784	95122	94227
10°	97775	94146	92724
15°	98764	92162	90313
20°	98262	88762	86724
25°	95972	83448	82321
30°	91160	77462	77167
35°	82983	70684	71306
40°	72755	63263	65594
45°	62767	56273	60242
50°	54958	49402	54564
55°	48697	42472	48025
60°	43874	35708	39791
65°	39532	28675	30477
70°	34675	20881	16779
75°	29559	10842	4432
80°	22766	2930	746
85°	14648	0	0



TEST NUMBER: P585211

CATALOG NUMBER: HC880D010-HM86080830-81RWWC

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	292.3	5.0
10°-20°	821.6	14.0
20°-30°	1166.2	19.8
30°-40°	1227.6	20.9
40°-50°	1044.3	17.7
50°-60°	754.7	12.8
60°-70°	429.2	7.3
70°-80°	135.2	2.3
80°-90°	16.4	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°	2280.1	38.7
0°-40°	3507.7	59.6
0°-60°	5306.7	90.1
0°-90°	5887.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5887.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3098	3098	3098	3098	3098	
5°	3127	3110	3073	3052	3044	298
15°	3094	3015	2887	2833	2829	871
25°	2821	2680	2453	2411	2420	1292
35°	2204	2076	1878	1865	1894	1372
45°	1439	1386	1290	1324	1381	1119
55°	906	840	790	836	893	817
65°	542	467	393	389	418	537
75°	248	190	91	41	37	267
85°	41	25	0	0	0	53
90°	0	0	0	0	0	



TEST NUMBER: P585211

CATALOG NUMBER: HC880D010-HM86080830-81RWWC

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8
2.5°	3114.3	3118.5	3110.2	3110.2	3118.5	3110.2	3114.3	3114.3	3110.2	3110.2	3106.0
5°	3126.7	3122.6	3122.6	3122.6	3126.7	3118.5	3114.3	3118.5	3110.2	3110.2	3110.2
7.5°	3130.9	3130.9	3126.7	3122.6	3122.6	3122.6	3118.5	3114.3	3110.2	3102.0	3097.8
10°	3122.6	3122.6	3126.7	3118.5	3118.5	3110.2	3110.2	3102.0	3102.0	3093.7	3081.3
12.5°	3114.3	3110.2	3110.2	3102.0	3102.0	3093.7	3093.7	3081.3	3077.1	3064.6	3052.3
15°	3093.7	3089.5	3081.3	3077.1	3073.0	3068.8	3060.6	3056.4	3044.1	3027.4	3015.1
17.5°	3052.3	3048.1	3044.1	3035.8	3027.4	3023.4	3019.2	3006.7	2990.2	2977.9	2957.2
20°	2994.4	2990.2	2990.2	2977.9	2973.7	2961.3	2957.2	2940.6	2928.3	2903.4	2886.9
22.5°	2915.8	2919.9	2911.6	2903.4	2895.1	2882.7	2874.4	2857.9	2837.2	2812.5	2791.8
25°	2820.7	2824.8	2816.5	2808.3	2795.8	2787.6	2779.3	2754.6	2733.9	2704.9	2680.0
27.5°	2700.7	2700.7	2700.7	2692.5	2671.8	2667.6	2659.4	2634.6	2605.6	2580.8	2556.0
30°	2560.2	2556.0	2556.0	2543.6	2535.3	2518.8	2506.4	2485.7	2465.0	2436.0	2407.1
32.5°	2390.6	2394.6	2382.3	2374.0	2361.6	2361.6	2345.1	2328.5	2303.7	2274.8	2245.8
35°	2204.4	2208.6	2200.2	2196.2	2175.5	2171.4	2167.2	2146.5	2130.0	2109.3	2076.2
37.5°	2014.2	2010.0	2006.0	2006.0	1993.5	1985.3	1977.0	1964.6	1939.7	1923.2	1906.7
40°	1807.4	1807.4	1807.4	1803.2	1799.1	1790.9	1786.7	1778.4	1761.9	1745.3	1733.0
42.5°	1621.3	1621.3	1617.2	1613.0	1604.7	1608.8	1600.6	1592.3	1575.8	1563.4	1555.1
45°	1439.3	1439.3	1439.3	1443.4	1435.1	1422.8	1422.8	1414.4	1406.2	1397.9	1385.5
47.5°	1277.9	1290.4	1282.1	1277.9	1282.1	1265.6	1265.6	1257.4	1249.0	1240.7	1224.2
50°	1145.6	1145.6	1145.6	1137.4	1133.2	1133.2	1120.9	1112.5	1108.4	1100.2	1083.7
52.5°	1025.8	1017.4	1017.4	1013.3	1009.1	1000.9	1000.9	992.6	976.1	967.8	955.4
55°	905.8	905.8	901.6	897.5	893.3	889.3	885.1	872.7	864.4	852.0	839.6
57.5°	798.2	806.5	802.3	794.1	785.8	785.8	777.6	769.3	756.9	744.4	732.1
60°	711.4	707.2	707.2	703.1	694.9	690.7	686.5	674.2	661.8	649.3	636.9
62.5°	620.4	620.4	620.4	612.1	603.9	599.7	595.6	587.2	570.7	558.4	550.0
65°	541.8	537.7	533.5	529.3	525.3	517.0	512.8	504.6	492.1	479.8	467.4
67.5°	463.2	459.1	459.1	454.9	442.5	438.4	438.4	426.0	413.5	401.2	388.8
70°	384.6	384.6	384.6	376.3	372.3	368.1	364.0	355.6	343.3	330.9	318.4
72.5°	318.4	314.4	314.4	310.2	297.7	293.7	289.5	281.2	268.8	260.5	252.3
75°	248.1	248.1	244.0	239.9	235.8	231.6	227.5	219.3	206.8	194.4	190.2
77.5°	190.2	186.1	186.1	182.0	173.7	169.6	169.6	161.3	148.9	140.7	132.3
80°	128.2	132.3	128.2	124.1	120.0	115.8	111.6	107.5	99.3	91.0	82.8
82.5°	78.6	82.8	78.6	78.6	74.4	70.3	70.3	62.1	57.9	53.7	49.6
85°	41.4	41.4	41.4	41.4	37.2	37.2	37.2	33.1	28.9	24.9	24.9
87.5°	12.4	16.5	12.4	12.4	12.4	12.4	12.4	12.4	8.3	8.3	8.3
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: P585211

CATALOG NUMBER: HC880D010-HM86080830-81RWWC

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8
2.5°	3110.2	3106.0	3102.0	3102.0	3102.0	3102.0	3102.0	3097.8	3093.7	3093.7	3093.7
5°	3102.0	3102.0	3102.0	3097.8	3093.7	3093.7	3085.3	3081.3	3077.1	3073.0	3068.8
7.5°	3093.7	3085.3	3081.3	3077.1	3073.0	3073.0	3064.6	3056.4	3056.4	3048.1	3039.9
10°	3068.8	3064.6	3056.4	3048.1	3044.1	3039.9	3031.6	3019.2	3015.1	3006.7	2998.5
12.5°	3039.9	3031.6	3023.4	3006.7	3002.7	2998.5	2982.0	2969.5	2961.3	2957.2	2936.5
15°	3002.7	2986.2	2973.7	2953.0	2948.8	2940.6	2928.3	2915.8	2899.3	2886.9	2878.6
17.5°	2936.5	2919.9	2899.3	2878.6	2870.4	2870.4	2849.7	2833.1	2812.5	2804.1	2787.6
20°	2857.9	2837.2	2820.7	2795.8	2783.4	2771.1	2758.6	2733.9	2717.3	2704.9	2684.2
22.5°	2766.9	2737.9	2717.3	2692.5	2671.8	2659.4	2638.7	2618.1	2597.4	2584.9	2568.4
25°	2651.1	2626.3	2593.2	2568.4	2556.0	2539.5	2514.6	2493.9	2473.2	2452.6	2444.3
27.5°	2522.9	2489.8	2460.9	2431.9	2419.5	2407.1	2378.1	2353.3	2336.7	2316.1	2307.8
30°	2382.3	2349.2	2316.1	2291.3	2278.8	2258.1	2241.6	2212.7	2192.0	2175.5	2154.8
32.5°	2220.9	2196.2	2167.2	2130.0	2121.8	2105.1	2080.4	2067.9	2043.2	2030.7	2014.2
35°	2047.2	2030.7	2001.8	1972.8	1960.4	1952.1	1931.4	1906.7	1890.2	1877.7	1869.5
37.5°	1881.8	1861.1	1832.2	1811.6	1803.2	1790.9	1766.0	1753.7	1737.1	1728.8	1712.3
40°	1704.0	1683.3	1662.6	1650.2	1637.8	1629.5	1613.0	1600.6	1584.1	1571.6	1567.5
42.5°	1530.2	1517.9	1501.4	1484.8	1480.7	1468.3	1460.0	1447.6	1435.1	1431.1	1418.6
45°	1373.2	1360.7	1344.2	1327.6	1323.5	1315.3	1311.1	1298.6	1290.4	1290.4	1290.4
47.5°	1216.0	1203.5	1187.0	1178.8	1182.8	1166.3	1166.3	1162.1	1153.9	1153.9	1158.1
50°	1075.3	1058.8	1054.6	1046.4	1038.1	1029.8	1034.0	1021.6	1021.6	1029.8	1025.8
52.5°	943.0	926.5	922.3	914.0	909.9	909.9	905.8	905.8	901.6	905.8	905.8
55°	823.0	810.7	802.3	794.1	790.0	790.0	790.0	785.8	781.6	790.0	794.1
57.5°	715.5	711.4	703.1	690.7	686.5	682.4	678.3	678.3	678.3	678.3	682.4
60°	620.4	612.1	603.9	591.4	591.4	587.2	583.2	579.0	579.0	579.0	579.0
62.5°	537.7	525.3	512.8	504.6	500.5	496.3	492.1	483.9	483.9	483.9	483.9
65°	454.9	442.5	434.2	426.0	417.7	417.7	409.5	405.3	397.0	393.0	384.6
67.5°	376.3	368.1	359.8	347.4	343.3	339.1	330.9	326.7	314.4	310.2	306.0
70°	306.0	293.7	285.4	277.2	273.0	264.7	256.5	248.1	239.9	231.6	223.3
72.5°	239.9	227.5	219.3	210.9	202.6	202.6	190.2	182.0	169.6	161.3	148.9
75°	177.9	165.4	157.2	144.7	140.7	136.5	124.1	115.8	103.4	91.0	82.8
77.5°	120.0	111.6	103.4	91.0	82.8	82.8	70.3	62.1	53.7	41.4	37.2
80°	74.4	66.2	57.9	49.6	49.6	41.4	37.2	28.9	20.7	16.5	12.4
82.5°	41.4	37.2	33.1	24.9	24.9	20.7	16.5	12.4	8.3	4.2	4.2
85°	20.7	16.5	12.4	12.4	8.3	8.3	8.3	4.2	4.2	0.0	0.0
87.5°	8.3	4.2	4.2	4.2	4.2	4.2	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: P585211

CATALOG NUMBER: HC880D010-HM86080830-81RWWC

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8
2.5°	3089.5	3089.5	3085.3	3085.3	3085.3	3081.3	3085.3	3081.3	3081.3	3081.3	3085.3
5°	3073.0	3064.6	3064.6	3060.6	3060.6	3056.4	3060.6	3056.4	3052.3	3048.1	3052.3
7.5°	3039.9	3031.6	3027.4	3023.4	3023.4	3023.4	3019.2	3015.1	3019.2	3006.7	3015.1
10°	2994.4	2990.2	2982.0	2977.9	2973.7	2977.9	2973.7	2965.5	2965.5	2965.5	2961.3
12.5°	2936.5	2928.3	2924.1	2919.9	2911.6	2911.6	2915.8	2907.6	2907.6	2899.3	2899.3
15°	2866.2	2857.9	2849.7	2849.7	2841.4	2841.4	2837.2	2837.2	2833.1	2829.0	2829.0
17.5°	2779.3	2766.9	2758.6	2762.8	2758.6	2754.6	2754.6	2746.2	2742.1	2746.2	2746.2
20°	2676.0	2667.6	2659.4	2663.5	2655.3	2651.1	2655.3	2642.8	2647.0	2647.0	2647.0
22.5°	2560.2	2556.0	2543.6	2543.6	2535.3	2531.1	2535.3	2535.3	2539.5	2535.3	2535.3
25°	2431.9	2423.7	2415.3	2415.3	2411.2	2407.1	2411.2	2415.3	2411.2	2415.3	2415.3
27.5°	2295.5	2283.0	2283.0	2274.8	2274.8	2278.8	2274.8	2278.8	2283.0	2283.0	2291.3
30°	2146.5	2142.3	2138.3	2134.1	2134.1	2138.3	2138.3	2138.3	2142.3	2150.7	2150.7
32.5°	2006.0	1997.6	1989.3	1989.3	1997.6	1993.5	1997.6	1997.6	2006.0	2006.0	2014.2
35°	1852.9	1852.9	1844.6	1848.8	1848.8	1848.8	1848.8	1857.0	1865.3	1869.5	1877.7
37.5°	1712.3	1699.9	1704.0	1704.0	1708.1	1704.0	1716.4	1716.4	1724.6	1724.6	1733.0
40°	1559.3	1559.3	1563.4	1559.3	1563.4	1563.4	1571.6	1579.9	1584.1	1592.3	1596.5
42.5°	1414.4	1422.8	1414.4	1418.6	1422.8	1426.9	1431.1	1435.1	1451.7	1460.0	1472.3
45°	1282.1	1286.3	1290.4	1294.6	1290.4	1298.6	1302.8	1311.1	1323.5	1327.6	1331.8
47.5°	1153.9	1158.1	1162.1	1166.3	1166.3	1174.6	1178.8	1187.0	1195.3	1199.5	1203.5
50°	1029.8	1038.1	1042.3	1042.3	1046.4	1054.6	1063.0	1063.0	1071.2	1083.7	1087.7
52.5°	918.1	918.1	926.5	930.6	934.7	934.7	947.2	951.2	955.4	963.7	971.9
55°	794.1	806.5	810.7	810.7	818.9	827.2	831.3	835.5	835.5	852.0	852.0
57.5°	686.5	690.7	699.0	699.0	699.0	711.4	711.4	719.7	723.7	727.9	736.2
60°	579.0	587.2	587.2	591.4	587.2	595.6	599.7	607.9	612.1	616.3	620.4
62.5°	479.8	479.8	483.9	483.9	483.9	483.9	492.1	492.1	500.5	504.6	508.8
65°	384.6	384.6	384.6	384.6	384.6	384.6	384.6	384.6	388.8	388.8	397.0
67.5°	297.7	293.7	285.4	289.5	285.4	285.4	281.2	281.2	285.4	285.4	293.7
70°	215.1	210.9	202.6	202.6	198.6	194.4	190.2	186.1	182.0	182.0	182.0
72.5°	140.7	132.3	120.0	115.8	115.8	107.5	99.3	95.1	95.1	95.1	95.1
75°	70.3	62.1	53.7	49.6	49.6	41.4	45.5	41.4	41.4	41.4	41.4
77.5°	28.9	20.7	16.5	16.5	16.5	12.4	12.4	12.4	12.4	12.4	12.4
80°	8.3	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
82.5°	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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: P585211

CATALOG NUMBER: HC880D010-HM86080830-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8	3097.8
2.5°	3081.3	3081.3	3073.0	3077.1	3077.1	3077.1	3077.1	3077.1
5°	3044.1	3048.1	3044.1	3048.1	3048.1	3044.1	3044.1	3044.1
7.5°	3006.7	3010.9	3006.7	3010.9	3010.9	3010.9	3006.7	3006.7
10°	2961.3	2961.3	2961.3	2961.3	2961.3	2957.2	2961.3	2961.3
12.5°	2899.3	2899.3	2899.3	2903.4	2903.4	2899.3	2899.3	2895.1
15°	2833.1	2824.8	2829.0	2833.1	2829.0	2829.0	2829.0	2829.0
17.5°	2742.1	2746.2	2742.1	2742.1	2742.1	2742.1	2746.2	2742.1
20°	2647.0	2647.0	2651.1	2647.0	2647.0	2647.0	2647.0	2642.8
22.5°	2539.5	2535.3	2535.3	2539.5	2539.5	2535.3	2539.5	2539.5
25°	2419.5	2423.7	2419.5	2419.5	2423.7	2423.7	2423.7	2419.5
27.5°	2291.3	2295.5	2299.5	2295.5	2295.5	2295.5	2299.5	2303.7
30°	2159.0	2167.2	2159.0	2159.0	2167.2	2163.0	2167.2	2167.2
32.5°	2018.3	2030.7	2022.5	2030.7	2030.7	2034.9	2030.7	2034.9
35°	1877.7	1890.2	1890.2	1890.2	1894.2	1898.4	1898.4	1894.2
37.5°	1745.3	1749.5	1749.5	1757.7	1761.9	1766.0	1766.0	1761.9
40°	1608.8	1617.2	1621.3	1621.3	1621.3	1629.5	1637.8	1629.5
42.5°	1476.5	1480.7	1484.8	1484.8	1493.0	1497.2	1501.4	1501.4
45°	1348.3	1356.5	1360.7	1364.9	1369.0	1377.2	1373.2	1381.4
47.5°	1216.0	1228.4	1232.5	1236.7	1244.9	1249.0	1253.2	1257.4
50°	1096.0	1104.3	1104.3	1112.5	1124.9	1124.9	1133.2	1137.4
52.5°	976.1	980.2	984.4	988.5	996.7	1005.1	1005.1	1013.3
55°	860.2	864.4	864.4	868.6	872.7	889.3	893.3	893.3
57.5°	740.3	740.3	748.6	752.8	756.9	765.1	765.1	765.1
60°	624.5	628.6	628.6	632.8	636.9	645.2	649.3	645.2
62.5°	508.8	512.8	512.8	517.0	525.3	529.3	525.3	525.3
65°	401.2	405.3	405.3	409.5	417.7	417.7	413.5	417.7
67.5°	293.7	293.7	293.7	293.7	293.7	293.7	293.7	293.7
70°	186.1	182.0	177.9	182.0	182.0	182.0	177.9	186.1
72.5°	91.0	95.1	95.1	95.1	95.1	95.1	95.1	91.0
75°	41.4	41.4	37.2	37.2	37.2	41.4	41.4	37.2
77.5°	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4
80°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	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)