

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: P584964

Luminaire Tested: **HC855D010-HM82555835-81WWW**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584964  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC855D010-HM82555835-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5111.6 lumens  
Efficiency: N/A  
Efficacy: 98.3 lumens/watt  
Spacing Criteria (0/90/45): 1.09 / 1.04 / 1.13  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

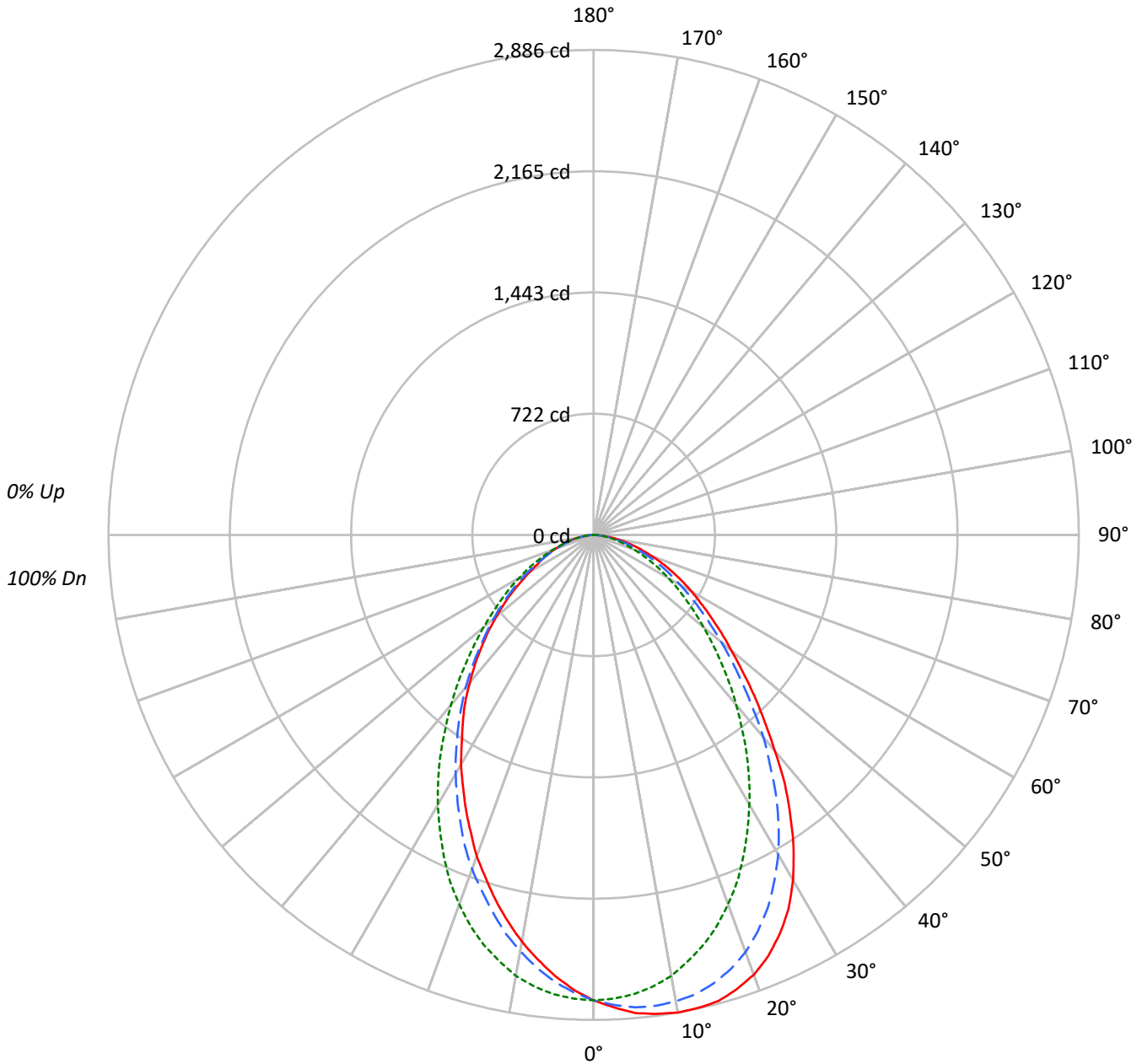
Input Watts (W): 52  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P584964

CATALOG NUMBER: HC855D010-HM82555835-81WWW

### Luminous Intensity Polar Plot





TEST NUMBER: P584964

CATALOG NUMBER: HC855D010-HM82555835-81WWW

**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	93	91	89	87																			
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76																			
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66																			
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51																			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41																			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38																			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34																			
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32																			

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

	0°	90°	180°
0°	85407	85407	85407
5°	88411	84919	81545
10°	90373	83428	76959
15°	91660	80621	71864
20°	91384	76709	66717
25°	89123	71733	61247
30°	84434	65969	56202
35°	76820	59704	51072
40°	67470	53099	46139
45°	58837	46710	41132
50°	51201	40926	36239
55°	45660	35966	31515
60°	41487	31521	26889
65°	37292	27428	24407
70°	33197	23387	22017
75°	29095	19706	18813
80°	24684	16018	16692
85°	18610	11994	13303



TEST NUMBER: P584964

CATALOG NUMBER: HC855D010-HM82555835-81WWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	259.4	5.1
10°-20°	714.8	14.0
20°-30°	992.2	19.4
30°-40°	1025.8	20.1
40°-50°	858.9	16.8
50°-60°	623.6	12.2
60°-70°	393.5	7.7
70°-80°	194.9	3.8
80°-90°	48.5	0.9
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°	1966.4	38.5
0°-40°	2992.3	58.5
0°-60°	4474.7	87.5
0°-90°	5111.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5111.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2770	2770	2770	2770	2770	
5°	2856	2822	2743	2668	2634	273
15°	2871	2762	2525	2323	2251	808
25°	2619	2450	2108	1879	1800	1200
35°	2041	1890	1586	1406	1357	1271
45°	1349	1252	1071	966	943	1043
55°	849	774	669	613	586	767
65°	511	447	376	331	334	510
75°	244	203	165	158	158	262
85°	53	41	34	38	38	64
90°	0	0	0	0	0	



TEST NUMBER: P584964

CATALOG NUMBER: HC855D010-HM82555835-81WWW

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7
2.5°	2814.8	2814.8	2818.5	2814.8	2814.8	2814.8	2811.0	2811.0	2807.3	2807.3	2799.8
5°	2856.2	2848.7	2856.2	2848.7	2848.7	2848.7	2844.9	2837.4	2833.5	2826.0	2822.3
7.5°	2874.9	2871.2	2871.2	2867.4	2867.4	2863.7	2859.9	2856.2	2841.2	2837.4	2826.0
10°	2886.2	2882.4	2882.4	2878.7	2871.2	2871.2	2863.7	2859.9	2841.2	2833.5	2818.5
12.5°	2882.4	2882.4	2882.4	2878.7	2867.4	2863.7	2856.2	2844.9	2829.8	2814.8	2799.8
15°	2871.2	2871.2	2863.7	2859.9	2848.7	2841.2	2837.4	2818.5	2803.5	2784.8	2762.2
17.5°	2833.5	2833.5	2829.8	2822.3	2811.0	2803.5	2796.0	2777.2	2762.2	2732.2	2709.5
20°	2784.8	2781.0	2777.2	2765.9	2754.7	2750.9	2739.7	2713.3	2694.5	2672.0	2641.9
22.5°	2713.3	2709.5	2705.8	2698.3	2679.5	2672.0	2664.4	2645.7	2611.9	2589.3	2551.8
25°	2619.4	2619.4	2611.9	2600.6	2581.8	2574.3	2563.0	2544.2	2514.2	2480.3	2450.3
27.5°	2510.4	2506.7	2495.4	2487.8	2472.8	2461.6	2442.8	2420.2	2390.2	2363.8	2326.3
30°	2371.3	2371.3	2363.8	2352.6	2333.8	2326.3	2311.2	2284.9	2254.8	2221.1	2194.7
32.5°	2213.6	2213.6	2202.2	2194.7	2183.4	2164.7	2160.9	2130.8	2104.6	2078.2	2048.2
35°	2040.7	2044.4	2036.9	2021.8	2003.1	2003.1	1995.6	1969.2	1939.2	1912.8	1890.3
37.5°	1867.8	1856.4	1852.7	1845.2	1833.9	1818.9	1811.4	1800.1	1773.8	1755.1	1721.2
40°	1676.1	1679.8	1672.3	1664.8	1661.1	1649.8	1646.1	1627.2	1608.5	1586.0	1570.8
42.5°	1503.2	1503.2	1503.2	1495.7	1488.2	1477.0	1473.2	1462.0	1439.3	1424.3	1401.7
45°	1349.2	1337.8	1337.8	1334.1	1330.3	1322.8	1311.6	1304.1	1289.0	1277.7	1251.5
47.5°	1198.8	1202.6	1198.8	1195.1	1183.8	1180.1	1176.3	1161.2	1146.2	1135.0	1116.1
50°	1067.3	1074.8	1067.3	1067.3	1059.7	1056.0	1048.5	1037.2	1026.0	1007.2	988.3
52.5°	958.3	958.3	954.6	950.8	939.5	932.0	928.2	924.5	905.7	890.7	875.6
55°	849.3	853.1	853.1	841.8	838.1	830.5	826.7	815.5	808.0	785.5	774.2
57.5°	755.4	751.6	755.4	747.9	740.4	732.9	729.1	721.6	710.2	695.2	680.2
60°	672.7	665.2	665.2	661.5	653.9	650.1	642.6	631.4	620.1	605.1	593.7
62.5°	590.0	586.2	582.5	578.7	571.2	567.5	563.7	552.5	541.1	529.9	518.6
65°	511.1	511.1	507.4	499.9	496.1	492.4	488.6	481.0	466.0	458.5	447.2
67.5°	439.7	436.0	436.0	428.4	420.9	417.1	417.1	409.6	398.4	387.1	379.6
70°	368.2	372.0	368.2	364.5	357.0	357.0	349.5	345.7	330.7	327.0	315.7
72.5°	304.4	304.4	300.6	300.6	293.1	289.4	289.4	281.9	274.4	266.9	259.4
75°	244.2	244.2	244.2	240.5	236.7	229.2	229.2	225.5	218.0	210.5	203.0
77.5°	191.6	187.9	187.9	184.1	180.4	176.6	176.6	172.9	165.4	161.6	154.1
80°	139.0	135.2	135.2	135.2	127.7	131.5	127.7	124.0	120.2	116.5	112.7
82.5°	90.2	94.0	94.0	90.2	86.5	86.5	86.5	82.6	82.6	78.9	75.1
85°	52.6	52.6	52.6	52.6	48.9	48.9	48.9	45.1	45.1	45.1	41.4
87.5°	22.5	22.5	22.5	22.5	22.5	22.5	18.8	18.8	18.8	18.8	18.8
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: P584964

CATALOG NUMBER: HC855D010-HM82555835-81WWW

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7
2.5°	2799.8	2792.3	2788.5	2784.8	2784.8	2781.0	2777.2	2769.7	2769.7	2762.2	2758.4
5°	2814.8	2803.5	2796.0	2788.5	2784.8	2777.2	2769.7	2758.4	2754.7	2743.4	2732.2
7.5°	2818.5	2799.8	2792.3	2777.2	2769.7	2762.2	2747.2	2735.9	2720.8	2709.5	2694.5
10°	2803.5	2788.5	2769.7	2750.9	2747.2	2735.9	2713.3	2698.3	2679.5	2664.4	2641.9
12.5°	2781.0	2758.4	2739.7	2717.0	2705.8	2694.5	2672.0	2649.4	2623.2	2596.8	2574.3
15°	2743.4	2717.0	2690.8	2664.4	2649.4	2638.2	2611.9	2585.5	2559.3	2525.4	2502.9
17.5°	2687.0	2656.9	2630.7	2596.8	2581.8	2570.5	2536.7	2506.7	2472.8	2439.0	2416.4
20°	2615.7	2578.0	2547.9	2510.4	2499.2	2480.3	2446.5	2412.7	2375.1	2337.6	2311.2
22.5°	2521.7	2484.1	2450.3	2412.7	2393.9	2375.1	2341.3	2299.9	2262.3	2232.3	2205.9
25°	2412.7	2378.9	2337.6	2303.7	2281.2	2258.6	2221.1	2187.2	2153.4	2108.3	2081.9
27.5°	2292.4	2251.1	2221.1	2175.9	2153.4	2138.3	2097.1	2051.9	2021.8	1980.6	1950.4
30°	2157.2	2119.6	2085.7	2040.7	2018.1	2003.1	1965.4	1924.2	1894.1	1852.7	1822.7
32.5°	2014.3	1972.9	1931.7	1901.6	1875.3	1860.2	1818.9	1792.6	1755.1	1721.2	1687.3
35°	1860.2	1818.9	1788.8	1747.5	1732.5	1717.4	1683.6	1649.8	1616.0	1586.0	1559.6
37.5°	1694.9	1664.8	1631.0	1601.0	1589.7	1574.6	1533.3	1503.2	1477.0	1446.8	1424.3
40°	1533.3	1507.0	1484.5	1454.3	1435.6	1424.3	1394.2	1368.0	1337.8	1319.1	1296.6
42.5°	1386.7	1356.7	1334.1	1311.6	1292.8	1281.5	1255.2	1236.5	1213.8	1195.1	1168.7
45°	1232.7	1217.6	1191.3	1172.5	1161.2	1146.2	1127.5	1104.8	1086.1	1071.1	1052.2
47.5°	1097.3	1082.3	1063.6	1041.0	1033.5	1022.2	1003.5	988.3	973.3	958.3	939.5
50°	973.3	954.6	939.5	924.5	917.0	905.7	886.9	879.4	868.1	853.1	841.8
52.5°	860.6	845.6	830.5	811.7	808.0	800.5	789.2	774.2	762.9	755.4	747.9
55°	759.1	744.1	732.9	717.8	714.0	706.5	691.5	684.0	676.5	669.0	661.5
57.5°	669.0	653.9	638.9	631.4	623.9	616.4	612.6	601.2	593.7	590.0	582.5
60°	586.2	571.2	560.0	548.7	545.0	541.1	533.6	526.1	518.6	511.1	507.4
62.5°	507.4	492.4	484.7	477.2	469.7	469.7	462.2	454.7	447.2	443.5	436.0
65°	436.0	428.4	417.1	405.9	402.1	402.1	390.9	387.1	383.4	375.9	368.2
67.5°	368.2	360.7	349.5	345.7	342.0	338.2	334.5	327.0	319.5	315.7	308.1
70°	308.1	300.6	293.1	289.4	285.6	281.9	274.4	270.6	263.1	259.4	255.5
72.5°	248.0	244.2	236.7	233.0	229.2	225.5	221.7	218.0	210.5	206.7	203.0
75°	199.1	195.4	187.9	184.1	180.4	180.4	176.6	169.1	165.4	165.4	161.6
77.5°	150.4	146.6	142.7	139.0	135.2	135.2	131.5	127.7	124.0	124.0	120.2
80°	109.0	105.2	101.5	101.5	101.5	97.7	94.0	94.0	90.2	90.2	86.5
82.5°	71.4	71.4	67.6	67.6	67.6	63.9	63.9	60.1	60.1	60.1	60.1
85°	41.4	41.4	41.4	37.6	37.6	37.6	37.6	37.6	37.6	33.9	37.6
87.5°	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	15.0	15.0	15.0
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: P584964

CATALOG NUMBER: HC855D010-HM82555835-81WWW

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7
2.5°	2754.7	2750.9	2743.4	2743.4	2735.9	2735.9	2732.2	2728.4	2724.7	2720.8	2717.0
5°	2728.4	2713.3	2705.8	2702.0	2694.5	2690.8	2679.5	2672.0	2668.3	2660.7	2653.2
7.5°	2679.5	2664.4	2649.4	2645.7	2641.9	2626.9	2615.7	2604.3	2596.8	2589.3	2581.8
10°	2623.2	2608.2	2589.3	2581.8	2574.3	2555.5	2540.4	2529.2	2514.2	2499.2	2495.4
12.5°	2555.5	2532.9	2510.4	2502.9	2491.6	2472.8	2457.8	2439.0	2427.7	2408.9	2405.2
15°	2476.6	2450.3	2431.4	2412.7	2405.2	2386.4	2360.1	2345.1	2322.6	2314.9	2296.2
17.5°	2382.7	2356.3	2330.1	2322.6	2311.2	2284.9	2258.6	2239.8	2217.3	2205.9	2194.7
20°	2284.9	2251.1	2224.8	2217.3	2202.2	2179.7	2153.4	2134.6	2115.8	2093.3	2081.9
22.5°	2172.2	2134.6	2112.1	2093.3	2089.4	2063.2	2033.1	2018.1	2003.1	1984.3	1969.2
25°	2048.2	2014.3	1988.1	1972.9	1965.4	1942.9	1920.4	1901.6	1879.1	1867.8	1848.9
27.5°	1920.4	1897.8	1864.1	1848.9	1837.7	1818.9	1792.6	1781.3	1758.8	1743.7	1732.5
30°	1796.3	1762.6	1743.7	1724.9	1713.7	1694.9	1672.3	1661.1	1642.3	1627.2	1616.0
32.5°	1661.1	1638.6	1612.2	1604.7	1589.7	1570.8	1555.8	1537.1	1522.1	1507.0	1503.2
35°	1537.1	1507.0	1480.7	1473.2	1462.0	1443.1	1435.6	1424.3	1405.6	1401.7	1386.7
37.5°	1401.7	1386.7	1356.7	1345.3	1341.6	1326.6	1311.6	1304.1	1292.8	1281.5	1277.7
40°	1274.0	1255.2	1240.2	1228.8	1221.3	1210.1	1195.1	1191.3	1183.8	1168.7	1165.0
42.5°	1153.7	1135.0	1120.0	1116.1	1104.8	1093.6	1086.1	1074.8	1071.1	1067.3	1059.7
45°	1037.2	1026.0	1011.0	1007.2	1003.5	988.3	980.8	973.3	965.8	962.1	954.6
47.5°	932.0	920.7	909.5	905.7	898.2	894.5	883.1	879.4	868.1	864.4	860.6
50°	830.5	823.0	815.5	811.7	804.2	800.5	793.0	785.5	778.0	774.2	770.4
52.5°	740.4	732.9	725.4	721.6	717.8	710.2	702.7	695.2	691.5	687.7	684.0
55°	653.9	646.4	642.6	638.9	635.1	631.4	620.1	616.4	612.6	608.9	601.2
57.5°	575.0	567.5	560.0	560.0	556.2	552.5	545.0	537.4	537.4	529.9	522.4
60°	503.6	496.1	488.6	484.7	481.0	473.5	469.7	466.0	462.2	458.5	451.0
62.5°	428.4	424.6	417.1	417.1	409.6	405.9	402.1	398.4	394.6	387.1	383.4
65°	364.5	360.7	353.2	349.5	349.5	345.7	338.2	334.5	330.7	330.7	327.0
67.5°	304.4	300.6	293.1	289.4	289.4	285.6	281.9	281.9	278.1	274.4	278.1
70°	251.7	244.2	244.2	240.5	240.5	236.7	233.0	233.0	233.0	236.7	236.7
72.5°	199.1	195.4	191.6	191.6	191.6	191.6	187.9	187.9	191.6	195.4	195.4
75°	157.9	154.1	154.1	154.1	150.4	150.4	154.1	154.1	157.9	157.9	157.9
77.5°	116.5	116.5	116.5	116.5	116.5	116.5	120.2	120.2	124.0	124.0	124.0
80°	86.5	86.5	86.5	86.5	86.5	90.2	90.2	90.2	90.2	90.2	94.0
82.5°	60.1	60.1	60.1	60.1	60.1	60.1	60.1	63.9	63.9	63.9	63.9
85°	33.9	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6
87.5°	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
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: P584964

CATALOG NUMBER: HC855D010-HM82555835-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7	2769.7
2.5°	2713.3	2713.3	2713.3	2717.0	2709.5	2709.5	2709.5	2709.5
5°	2649.4	2645.7	2641.9	2645.7	2638.2	2638.2	2634.4	2634.4
7.5°	2570.5	2566.8	2563.0	2563.0	2555.5	2555.5	2551.8	2547.9
10°	2484.1	2476.6	2480.3	2472.8	2469.1	2465.3	2461.6	2457.8
12.5°	2390.2	2382.7	2378.9	2371.3	2363.8	2360.1	2363.8	2356.3
15°	2288.7	2277.4	2273.7	2266.2	2258.6	2254.8	2254.8	2251.1
17.5°	2175.9	2168.4	2164.7	2157.2	2153.4	2145.8	2142.1	2138.3
20°	2070.7	2051.9	2055.7	2048.2	2044.4	2029.3	2029.3	2033.1
22.5°	1954.2	1942.9	1935.4	1927.9	1924.2	1916.6	1916.6	1912.8
25°	1837.7	1826.4	1822.7	1815.2	1811.4	1803.8	1800.1	1800.1
27.5°	1724.9	1709.9	1709.9	1702.4	1694.9	1691.2	1687.3	1683.6
30°	1604.7	1593.5	1589.7	1589.7	1586.0	1586.0	1574.6	1578.4
32.5°	1492.0	1484.5	1480.7	1473.2	1473.2	1469.5	1469.5	1458.1
35°	1379.2	1368.0	1371.7	1364.2	1360.5	1356.7	1360.5	1356.7
37.5°	1270.2	1262.7	1262.7	1255.2	1255.2	1251.5	1247.7	1255.2
40°	1161.2	1157.5	1153.7	1150.0	1153.7	1150.0	1142.5	1146.2
42.5°	1052.2	1052.2	1048.5	1048.5	1044.7	1044.7	1044.7	1044.7
45°	954.6	950.8	950.8	947.1	947.1	947.1	947.1	943.2
47.5°	856.8	853.1	853.1	853.1	849.3	849.3	845.6	849.3
50°	762.9	762.9	759.1	759.1	762.9	759.1	755.4	755.4
52.5°	676.5	676.5	672.7	672.7	669.0	665.2	669.0	669.0
55°	597.5	593.7	590.0	590.0	586.2	582.5	582.5	586.2
57.5°	522.4	518.6	514.9	514.9	507.4	503.6	503.6	503.6
60°	451.0	443.5	443.5	439.7	439.7	436.0	436.0	436.0
62.5°	383.4	379.6	379.6	379.6	379.6	375.9	375.9	375.9
65°	327.0	327.0	327.0	330.7	330.7	334.5	334.5	334.5
67.5°	281.9	285.6	285.6	285.6	289.4	289.4	289.4	285.6
70°	240.5	240.5	240.5	244.2	244.2	244.2	244.2	244.2
72.5°	199.1	199.1	199.1	199.1	199.1	199.1	199.1	199.1
75°	157.9	161.6	161.6	161.6	157.9	161.6	161.6	157.9
77.5°	124.0	124.0	124.0	124.0	124.0	124.0	124.0	124.0
80°	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0
82.5°	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9
85°	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6
87.5°	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
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)