

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: P593768

Luminaire Tested: **HC845D010-HM82555850-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593768
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC845D010-HM82555850-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4600.2 lumens
Efficiency: N/A
Efficacy: 104.6 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

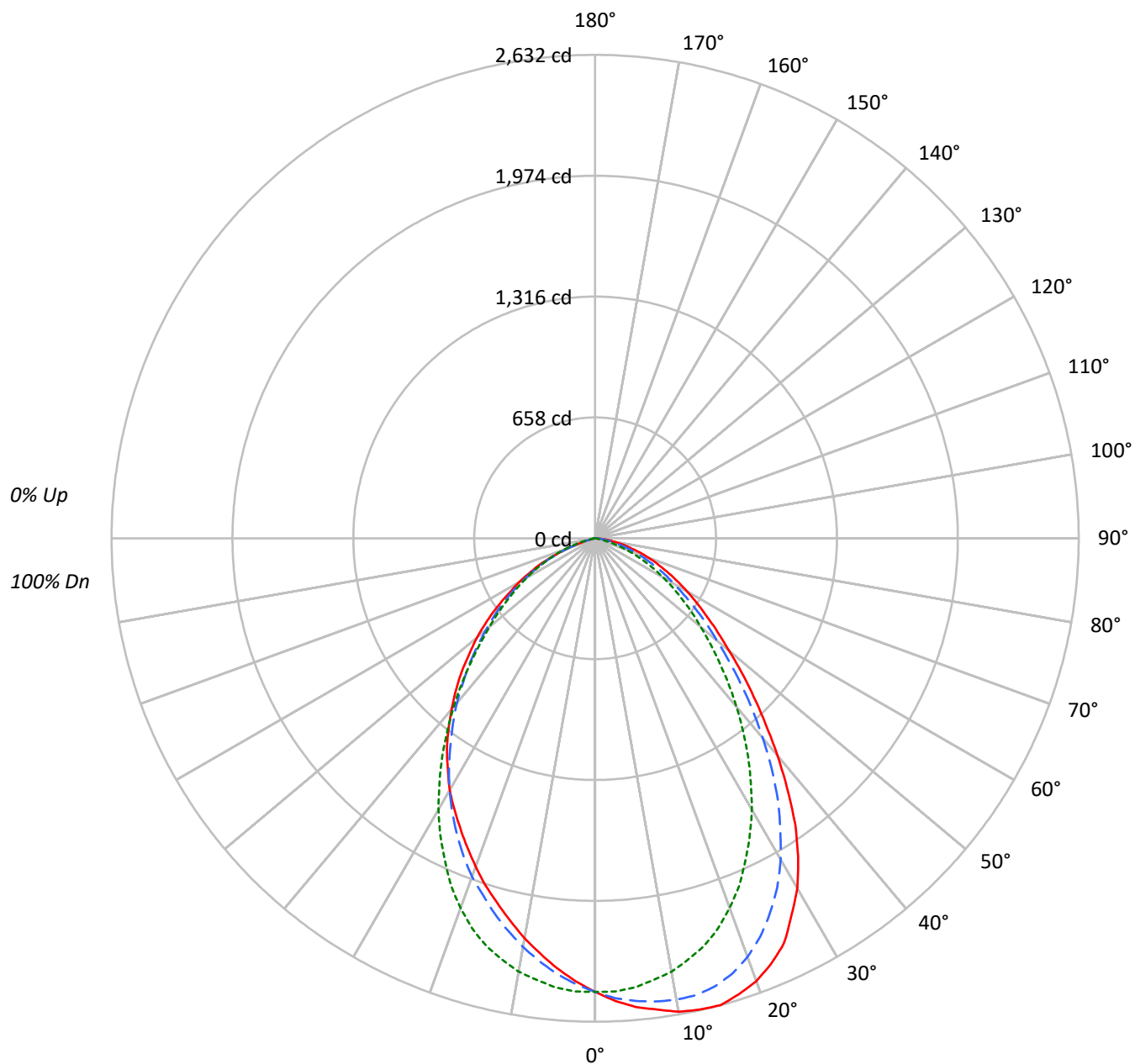
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10		50	30	10			50	30	10			50
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	111	107	104	101	108	105	102	99		101	98	96			97	95	93			93
2	103	96	90	86	100	94	89	85		91	86	83			88	84	81			85
3	95	86	79	74	93	85	78	73		82	76	72			79	74	71			77
4	88	78	70	64	86	76	69	64		74	68	63			72	66	62			70
5	82	70	63	57	80	69	62	56		67	61	56			65	60	55			64
6	76	64	56	51	74	63	56	50		62	55	50			60	54	50			58
7	71	59	51	45	69	58	51	45		57	50	45			55	49	45			54
8	66	54	46	41	65	53	46	41		52	46	41			51	45	41			50
9	62	50	43	37	61	50	42	37		48	42	37			47	41	37			46
10	59	47	39	34	57	46	39	34		45	39	34			44	38	34			43

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	76153	76153	76153
5°	79301	75992	72789
10°	81953	75020	69237
15°	84027	73301	65646
20°	84194	70261	62388
25°	82774	65816	59158
30°	78342	60727	56390
35°	71426	54614	52947
40°	62116	48148	48888
45°	53286	41695	44756
50°	45512	35951	40201
55°	39891	30961	34929
60°	35517	26414	29369
65°	31514	21554	23436
70°	27958	15976	13317
75°	23316	8352	3956
80°	18344	2628	639
85°	13055	1274	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.7	5.1
10°-20°	652.2	14.2
20°-30°	923.2	20.1
30°-40°	965.8	21.0
40°-50°	805.6	17.5
50°-60°	571.3	12.4
60°-70°	329.0	7.2
70°-80°	105.9	2.3
80°-90°	14.5	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°	1808.1	39.3
0°-40°	2774.0	60.3
0°-60°	4150.8	90.2
0°-90°	4600.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4600.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2470	2470	2470	2470	2470	
5°	2562	2529	2455	2381	2352	246
15°	2632	2525	2296	2115	2056	740
25°	2433	2252	1934	1779	1739	1110
35°	1897	1731	1451	1373	1406	1176
45°	1222	1122	956	967	1026	947
55°	742	664	576	605	650	670
65°	432	362	295	295	321	432
75°	196	144	70	33	33	212
85°	37	18	4	0	0	46
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°	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6
2.5°	2521.4	2517.7	2514.0	2517.7	2514.0	2517.7	2514.0	2514.0	2510.3	2506.6	2506.6
5°	2561.9	2558.3	2558.3	2558.3	2554.6	2550.9	2550.9	2547.2	2539.8	2536.1	2528.8
7.5°	2587.9	2591.5	2591.5	2591.5	2584.1	2584.1	2576.7	2569.3	2561.9	2554.6	2543.5
10°	2617.3	2617.3	2613.7	2609.9	2602.5	2598.9	2595.1	2587.9	2576.7	2561.9	2550.9
12.5°	2628.5	2628.5	2624.7	2617.3	2613.7	2609.9	2606.3	2595.1	2580.5	2561.9	2547.2
15°	2632.1	2624.7	2621.1	2617.3	2609.9	2598.9	2598.9	2584.1	2565.7	2543.5	2525.0
17.5°	2602.5	2606.3	2598.9	2591.5	2580.5	2573.1	2561.9	2550.9	2528.8	2502.9	2484.4
20°	2565.7	2561.9	2558.3	2547.2	2532.4	2528.8	2517.7	2499.2	2480.8	2451.2	2425.4
22.5°	2506.6	2502.9	2495.6	2488.2	2473.4	2466.0	2455.0	2432.8	2406.9	2377.4	2347.9
25°	2432.8	2425.4	2414.3	2399.5	2388.5	2381.1	2366.3	2344.1	2314.7	2281.4	2251.9
27.5°	2314.7	2325.7	2318.3	2296.1	2285.1	2270.3	2266.6	2237.1	2211.2	2178.0	2144.8
30°	2200.2	2200.2	2189.2	2178.0	2159.6	2148.5	2133.8	2111.6	2085.7	2045.1	2019.3
32.5°	2056.3	2052.5	2037.7	2034.1	2019.3	1997.1	1993.5	1964.0	1938.1	1908.6	1875.4
35°	1897.4	1890.1	1875.4	1864.2	1856.9	1845.8	1834.7	1808.9	1783.1	1753.5	1731.3
37.5°	1716.6	1716.6	1712.9	1694.4	1687.0	1679.7	1668.6	1642.8	1628.0	1598.4	1576.3
40°	1543.1	1539.4	1528.3	1524.7	1517.3	1506.1	1498.7	1484.1	1461.9	1439.7	1417.6
42.5°	1373.2	1377.0	1362.2	1365.8	1351.2	1343.8	1340.0	1317.9	1306.8	1284.7	1266.3
45°	1221.9	1218.3	1210.9	1207.1	1199.7	1192.4	1185.0	1173.9	1155.5	1133.4	1122.2
47.5°	1081.6	1070.6	1070.6	1066.8	1063.2	1048.4	1044.7	1033.6	1022.6	1000.5	985.7
50°	948.7	948.7	948.7	945.1	933.9	930.3	922.9	911.8	900.7	886.0	863.8
52.5°	841.6	841.6	841.6	838.0	823.2	819.6	815.8	801.0	786.3	775.2	760.5
55°	742.0	745.7	742.0	734.6	723.5	723.5	712.5	705.1	690.3	679.3	664.5
57.5°	657.1	657.1	649.7	646.1	638.7	634.9	627.6	620.2	601.7	590.6	572.2
60°	575.9	572.2	572.2	564.8	557.4	550.0	546.4	535.2	527.8	509.4	494.7
62.5°	502.0	502.0	494.7	494.7	479.9	479.9	476.2	465.1	454.1	435.7	428.3
65°	431.9	431.9	428.3	424.5	413.5	409.7	406.1	394.9	383.9	372.9	361.8
67.5°	369.1	369.1	361.8	358.1	350.7	347.0	339.6	332.2	321.2	310.1	299.0
70°	310.1	306.4	302.8	299.0	291.6	288.0	280.6	273.2	262.0	254.8	243.6
72.5°	251.0	251.0	247.4	240.0	236.2	232.6	228.9	221.5	210.4	199.3	192.0
75°	195.7	195.7	195.7	188.3	180.9	177.2	177.2	169.9	162.5	151.3	143.9
77.5°	151.3	147.7	143.9	143.9	136.5	132.9	129.3	125.5	114.5	110.7	103.3
80°	103.3	107.1	103.3	99.7	96.0	92.3	92.3	84.9	81.2	73.8	66.4
82.5°	70.1	66.4	66.4	62.8	62.8	59.1	59.1	51.7	48.0	44.3	40.6
85°	36.9	36.9	33.2	33.2	33.2	29.6	29.6	25.8	25.8	22.2	18.4
87.5°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	7.4	7.4	7.4
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°	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6
2.5°	2502.9	2495.6	2491.8	2491.8	2488.2	2484.4	2480.8	2477.0	2469.6	2469.6	2462.2
5°	2521.4	2514.0	2510.3	2499.2	2491.8	2491.8	2477.0	2473.4	2462.2	2455.0	2447.6
7.5°	2536.1	2521.4	2510.3	2499.2	2491.8	2484.4	2469.6	2455.0	2440.2	2425.4	2418.0
10°	2536.1	2521.4	2502.9	2484.4	2477.0	2469.6	2451.2	2429.0	2410.6	2395.9	2377.4
12.5°	2528.8	2506.6	2484.4	2469.6	2455.0	2443.8	2421.7	2399.5	2377.4	2347.9	2333.1
15°	2506.6	2477.0	2455.0	2429.0	2418.0	2399.5	2381.1	2347.9	2322.1	2296.1	2277.7
17.5°	2462.2	2425.4	2399.5	2373.7	2355.3	2344.1	2314.7	2285.1	2255.6	2226.0	2203.8
20°	2395.9	2362.7	2333.1	2299.9	2285.1	2270.3	2233.4	2203.8	2174.4	2141.1	2119.0
22.5°	2314.7	2281.4	2240.8	2215.0	2192.8	2174.4	2141.1	2107.9	2078.3	2048.9	2019.3
25°	2215.0	2181.8	2144.8	2104.2	2089.5	2071.0	2034.1	2000.9	1967.6	1934.4	1908.6
27.5°	2107.9	2063.7	2034.1	1989.8	1975.0	1956.6	1916.0	1879.0	1849.5	1823.7	1794.1
30°	1978.7	1945.4	1904.8	1864.2	1849.5	1831.1	1797.9	1764.5	1735.1	1705.5	1676.0
32.5°	1838.4	1805.2	1764.5	1735.1	1712.9	1698.2	1665.0	1635.4	1605.8	1576.3	1550.5
35°	1690.8	1653.8	1624.3	1594.8	1576.3	1557.9	1524.7	1498.7	1476.7	1450.8	1425.0
37.5°	1539.4	1513.5	1484.1	1450.8	1432.4	1417.6	1391.8	1362.2	1343.8	1321.6	1303.1
40°	1391.8	1362.2	1336.4	1306.8	1292.1	1281.0	1255.1	1232.9	1214.5	1196.1	1185.0
42.5°	1240.3	1214.5	1188.7	1170.2	1159.2	1148.1	1129.6	1103.8	1092.8	1074.2	1063.2
45°	1100.2	1078.0	1059.5	1033.6	1026.3	1018.9	996.7	978.3	967.3	956.1	948.7
47.5°	967.3	952.5	930.3	915.5	904.5	897.1	882.3	867.6	856.4	849.0	841.6
50°	852.8	834.4	819.6	804.8	797.4	786.3	771.6	764.2	756.8	749.4	749.4
52.5°	745.7	727.3	712.5	701.5	694.1	686.7	675.5	671.9	664.5	664.5	660.8
55°	646.1	634.9	620.2	605.4	601.7	598.0	590.6	583.2	579.6	575.9	579.6
57.5°	561.2	550.0	535.2	524.2	520.5	516.8	513.2	505.8	502.0	502.0	502.0
60°	483.6	472.5	461.5	450.4	450.4	443.0	439.3	435.7	431.9	428.3	428.3
62.5°	413.5	402.3	391.3	383.9	380.3	376.5	369.1	365.5	361.8	361.8	358.1
65°	350.7	335.9	332.2	321.2	317.5	313.8	310.1	302.8	299.0	295.4	291.6
67.5°	288.0	280.6	269.4	262.0	258.4	254.8	251.0	243.6	240.0	236.2	228.9
70°	232.6	225.2	217.8	210.4	206.7	203.0	195.7	188.3	184.6	177.2	166.1
72.5°	180.9	173.5	166.1	158.7	155.1	151.3	143.9	136.5	129.3	121.9	114.5
75°	136.5	129.3	118.1	110.7	107.1	107.1	96.0	88.6	81.2	70.1	62.8
77.5°	96.0	84.9	81.2	73.8	70.1	62.8	55.4	48.0	40.6	36.9	29.6
80°	62.8	55.4	48.0	44.3	40.6	36.9	33.2	25.8	18.4	14.8	11.0
82.5°	36.9	33.2	29.6	25.8	22.2	18.4	14.8	14.8	11.0	7.4	3.6
85°	18.4	14.8	11.0	11.0	7.4	7.4	7.4	3.6	3.6	3.6	3.6
87.5°	7.4	3.6	3.6	3.6	3.6	3.6	3.6	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6
2.5°	2458.6	2455.0	2451.2	2447.6	2447.6	2440.2	2440.2	2436.4	2429.0	2425.4	2425.4
5°	2436.4	2425.4	2418.0	2414.3	2410.6	2399.5	2395.9	2388.5	2381.1	2373.7	2370.0
7.5°	2403.2	2384.8	2377.4	2373.7	2362.7	2351.5	2344.1	2333.1	2322.1	2310.9	2307.3
10°	2362.7	2344.1	2325.7	2318.3	2307.3	2299.9	2285.1	2270.3	2259.3	2248.2	2237.1
12.5°	2310.9	2288.8	2270.3	2263.0	2251.9	2237.1	2215.0	2207.6	2189.2	2181.8	2167.0
15°	2251.9	2226.0	2207.6	2196.6	2185.4	2163.2	2148.5	2133.8	2115.3	2107.9	2093.1
17.5°	2178.0	2148.5	2130.1	2119.0	2111.6	2093.1	2071.0	2052.5	2034.1	2026.7	2015.6
20°	2089.5	2071.0	2045.1	2034.1	2026.7	2004.5	1982.4	1975.0	1960.2	1945.4	1934.4
22.5°	1989.8	1971.3	1945.4	1934.4	1930.8	1912.2	1893.8	1882.7	1871.6	1860.6	1849.5
25°	1886.4	1864.2	1842.1	1834.7	1827.3	1812.5	1797.9	1790.5	1779.3	1771.9	1764.5
27.5°	1775.7	1753.5	1735.1	1724.0	1716.6	1705.5	1698.2	1690.8	1683.4	1676.0	1672.3
30°	1657.6	1635.4	1620.6	1613.2	1605.8	1602.2	1591.1	1587.4	1583.7	1576.3	1580.0
32.5°	1539.4	1520.9	1506.1	1495.1	1495.1	1487.7	1484.1	1484.1	1480.3	1480.3	1480.3
35°	1410.2	1399.2	1388.0	1384.4	1380.6	1377.0	1373.2	1377.0	1373.2	1377.0	1380.6
37.5°	1292.1	1281.0	1273.6	1269.9	1266.3	1269.9	1266.3	1266.3	1269.9	1277.3	1281.0
40°	1170.2	1162.9	1155.5	1159.2	1155.5	1155.5	1155.5	1166.5	1170.2	1173.9	1177.6
42.5°	1055.8	1048.4	1044.7	1044.7	1048.4	1044.7	1052.1	1055.8	1063.2	1074.2	1081.6
45°	945.1	941.3	941.3	945.1	941.3	948.7	948.7	956.1	967.3	974.5	981.9
47.5°	841.6	841.6	841.6	845.4	845.4	849.0	856.4	860.2	867.6	874.9	882.3
50°	745.7	749.4	753.1	753.1	753.1	760.5	767.8	771.6	775.2	778.9	790.0
52.5°	660.8	664.5	664.5	668.1	671.9	675.5	679.3	686.7	690.3	697.7	701.5
55°	579.6	579.6	587.0	590.6	590.6	590.6	598.0	598.0	605.4	609.1	616.5
57.5°	502.0	505.8	505.8	509.4	509.4	513.2	516.8	520.5	524.2	527.8	531.6
60°	428.3	428.3	428.3	431.9	435.7	439.3	435.7	443.0	443.0	450.4	454.1
62.5°	358.1	361.8	361.8	361.8	361.8	361.8	361.8	365.5	369.1	372.9	376.5
65°	291.6	291.6	291.6	288.0	291.6	288.0	291.6	295.4	295.4	299.0	302.8
67.5°	225.2	225.2	217.8	217.8	221.5	221.5	221.5	221.5	217.8	225.2	225.2
70°	162.5	158.7	155.1	151.3	151.3	147.7	147.7	143.9	143.9	143.9	143.9
72.5°	107.1	99.7	92.3	88.6	84.9	84.9	77.5	73.8	77.5	77.5	77.5
75°	55.4	48.0	44.3	40.6	36.9	36.9	33.2	33.2	33.2	33.2	33.2
77.5°	22.2	18.4	14.8	14.8	11.0	11.0	11.0	11.0	11.0	11.0	11.0
80°	7.4	7.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
82.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
85°	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6	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: P593768

CATALOG NUMBER: HC845D010-HM82555850-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6	2469.6
2.5°	2421.7	2421.7	2418.0	2421.7	2414.3	2418.0	2414.3	2414.3
5°	2366.3	2358.9	2358.9	2358.9	2355.3	2355.3	2351.5	2351.5
7.5°	2299.9	2296.1	2292.5	2288.8	2285.1	2281.4	2281.4	2281.4
10°	2233.4	2226.0	2226.0	2222.4	2215.0	2211.2	2211.2	2211.2
12.5°	2155.9	2152.2	2148.5	2148.5	2133.8	2137.4	2133.8	2133.8
15°	2082.1	2078.3	2078.3	2067.3	2059.9	2059.9	2059.9	2056.3
17.5°	2004.5	2000.9	1997.1	1989.8	1982.4	1982.4	1978.7	1982.4
20°	1923.4	1919.6	1912.2	1912.2	1908.6	1904.8	1897.4	1901.2
22.5°	1842.1	1834.7	1831.1	1831.1	1827.3	1827.3	1819.9	1819.9
25°	1757.2	1753.5	1749.8	1753.5	1746.1	1746.1	1738.7	1738.7
27.5°	1668.6	1665.0	1665.0	1665.0	1661.2	1665.0	1661.2	1661.2
30°	1580.0	1580.0	1576.3	1576.3	1580.0	1576.3	1580.0	1583.7
32.5°	1484.1	1484.1	1487.7	1487.7	1491.4	1491.4	1491.4	1491.4
35°	1384.4	1391.8	1391.8	1395.4	1399.2	1402.8	1402.8	1406.5
37.5°	1292.1	1295.7	1299.4	1303.1	1310.5	1310.5	1310.5	1310.5
40°	1192.4	1196.1	1203.5	1199.7	1214.5	1218.3	1214.5	1214.5
42.5°	1089.0	1096.4	1100.2	1107.4	1111.2	1118.6	1122.2	1122.2
45°	993.1	996.7	1004.1	1011.5	1015.2	1026.3	1026.3	1026.3
47.5°	893.4	900.7	904.5	911.8	915.5	926.6	930.3	926.6
50°	797.4	804.8	812.2	812.2	823.2	827.0	834.4	838.0
52.5°	705.1	708.8	716.1	719.9	727.3	734.6	738.3	742.0
55°	616.5	620.2	627.6	627.6	638.7	642.3	649.7	649.7
57.5°	535.2	539.0	546.4	542.6	550.0	557.4	557.4	553.8
60°	457.7	457.7	457.7	465.1	468.8	472.5	476.2	476.2
62.5°	376.5	383.9	387.7	387.7	391.3	394.9	394.9	391.3
65°	302.8	310.1	313.8	313.8	317.5	317.5	317.5	321.2
67.5°	228.9	228.9	228.9	232.6	228.9	228.9	228.9	228.9
70°	143.9	143.9	143.9	143.9	140.3	143.9	143.9	147.7
72.5°	77.5	77.5	77.5	77.5	77.5	77.5	77.5	77.5
75°	33.2	33.2	33.2	36.9	33.2	33.2	33.2	33.2
77.5°	14.8	11.0	14.8	14.8	11.0	11.0	11.0	11.0
80°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
82.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
85°	0.0	3.6	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



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)