

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: P593785

Luminaire Tested: **HC845D010-HM82555950-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P593785
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-HM82555950-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4378.3 lumens
Efficiency: N/A
Efficacy: 99.5 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

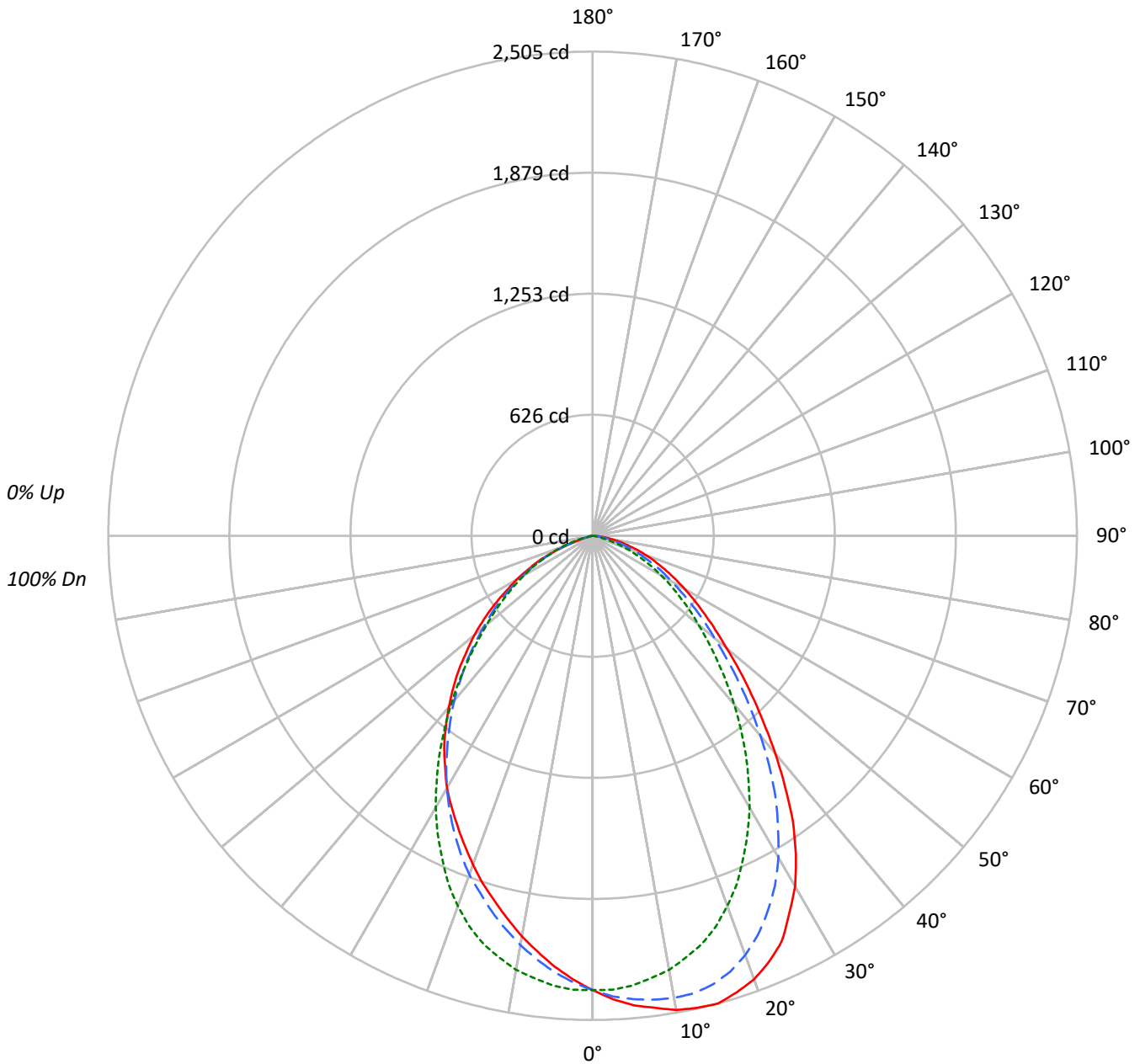
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59																			
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47																			
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43																			
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39																			
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	72484	72484	72484
5°	75478	72324	69278
10°	78001	71401	65899
15°	79976	69767	62475
20°	80135	66874	59379
25°	78779	62642	56306
30°	74560	57797	53670
35°	67985	51983	50391
40°	59117	45825	46534
45°	50717	39684	42597
50°	43319	34219	38258
55°	37972	29467	33246
60°	33803	25138	27950
65°	29996	20510	22305
70°	26606	15210	12667
75°	22196	7947	3777
80°	17474	2504	622
85°	12454	1238	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.5	5.1
10°-20°	620.8	14.2
20°-30°	878.6	20.1
30°-40°	919.2	21.0
40°-50°	766.7	17.5
50°-60°	543.7	12.4
60°-70°	313.1	7.2
70°-80°	100.8	2.3
80°-90°	13.9	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°	1720.9	39.3
0°-40°	2640.1	60.3
0°-60°	3950.6	90.2
0°-90°	4378.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4378.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2351	2351	2351	2351	2351	
5°	2438	2407	2336	2266	2238	234
15°	2505	2403	2185	2013	1957	704
25°	2315	2143	1841	1694	1655	1057
35°	1806	1648	1381	1307	1339	1120
45°	1163	1068	910	921	977	901
55°	706	632	548	576	618	638
65°	411	344	281	281	306	411
75°	186	137	67	32	32	202
85°	35	18	4	0	0	44
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°	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6
2.5°	2399.7	2396.2	2392.7	2396.2	2392.7	2396.2	2392.7	2392.7	2389.2	2385.6	2385.6
5°	2438.4	2434.9	2434.9	2434.9	2431.4	2427.9	2427.9	2424.4	2417.3	2413.8	2406.8
7.5°	2462.9	2466.5	2466.5	2466.5	2459.4	2459.4	2452.4	2445.4	2438.4	2431.4	2420.8
10°	2491.1	2491.1	2487.6	2484.1	2477.0	2473.5	2470.0	2462.9	2452.4	2438.4	2427.9
12.5°	2501.7	2501.7	2498.1	2491.1	2487.6	2484.1	2480.5	2470.0	2455.9	2438.4	2424.4
15°	2505.2	2498.1	2494.6	2491.1	2484.1	2473.5	2473.5	2459.4	2442.0	2420.8	2403.2
17.5°	2477.0	2480.5	2473.5	2466.5	2455.9	2448.9	2438.4	2427.9	2406.8	2382.1	2364.7
20°	2442.0	2438.4	2434.9	2424.4	2410.3	2406.8	2396.2	2378.6	2361.1	2333.0	2308.3
22.5°	2385.6	2382.1	2375.1	2368.1	2354.1	2347.1	2336.5	2315.4	2290.9	2262.7	2234.6
25°	2315.4	2308.3	2297.8	2283.8	2273.3	2266.2	2252.2	2231.0	2203.0	2171.3	2143.2
27.5°	2203.0	2213.6	2206.5	2185.4	2174.9	2160.8	2157.3	2129.2	2104.6	2072.9	2041.4
30°	2094.0	2094.0	2083.5	2072.9	2055.4	2044.9	2030.8	2009.7	1985.2	1946.5	1921.8
32.5°	1957.0	1953.5	1939.4	1935.9	1921.8	1900.8	1897.3	1869.2	1844.5	1816.5	1784.8
35°	1806.0	1798.9	1784.8	1774.3	1767.2	1756.8	1746.2	1721.6	1697.0	1668.9	1647.8
37.5°	1633.8	1633.8	1630.2	1612.8	1605.7	1598.7	1588.1	1563.5	1549.4	1521.4	1500.3
40°	1468.6	1465.2	1454.6	1451.1	1444.1	1433.5	1426.5	1412.4	1391.3	1370.3	1349.2
42.5°	1307.1	1310.6	1296.5	1300.0	1286.0	1278.9	1275.4	1254.3	1243.7	1222.7	1205.1
45°	1163.0	1159.5	1152.5	1149.0	1141.9	1134.9	1127.8	1117.3	1099.7	1078.7	1068.1
47.5°	1029.4	1018.9	1018.9	1015.3	1011.9	997.9	994.4	983.8	973.2	952.1	938.2
50°	903.0	903.0	903.0	899.5	888.9	885.4	878.3	867.8	857.3	843.3	822.2
52.5°	801.0	801.0	801.0	797.5	783.6	780.0	776.5	762.4	748.4	737.8	723.7
55°	706.3	709.8	706.3	699.2	688.7	688.7	678.1	671.1	657.0	646.4	632.5
57.5°	625.4	625.4	618.4	614.9	607.8	604.3	597.3	590.3	572.7	562.2	544.6
60°	548.1	544.6	544.6	537.6	530.5	523.5	520.0	509.4	502.4	484.9	470.8
62.5°	477.9	477.9	470.8	470.8	456.8	456.8	453.2	442.7	432.1	414.5	407.6
65°	411.1	411.1	407.6	404.1	393.5	390.0	386.5	375.9	365.4	354.8	344.3
67.5°	351.3	351.3	344.3	340.8	333.8	330.3	323.3	316.2	305.7	295.1	284.6
70°	295.1	291.6	288.1	284.6	277.5	274.0	267.0	260.1	249.5	242.5	231.9
72.5°	238.9	238.9	235.4	228.4	224.9	221.3	217.8	210.8	200.2	189.7	182.8
75°	186.3	186.3	186.3	179.2	172.2	168.7	168.7	161.6	154.6	144.0	137.0
77.5°	144.0	140.5	137.0	137.0	130.0	126.4	122.9	119.4	109.0	105.5	98.4
80°	98.4	101.9	98.4	94.9	91.4	87.9	87.9	80.8	77.3	70.3	63.2
82.5°	66.7	63.2	63.2	59.7	59.7	56.2	56.2	49.1	45.6	42.1	38.6
85°	35.2	35.2	31.7	31.7	31.7	28.2	28.2	24.6	24.6	21.1	17.6
87.5°	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	7.0	7.0	7.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6
2.5°	2382.1	2375.1	2371.6	2371.6	2368.1	2364.7	2361.1	2357.6	2350.6	2350.6	2343.5
5°	2399.7	2392.7	2389.2	2378.6	2371.6	2371.6	2357.6	2354.1	2343.5	2336.5	2329.5
7.5°	2413.8	2399.7	2389.2	2378.6	2371.6	2364.7	2350.6	2336.5	2322.4	2308.3	2301.3
10°	2413.8	2399.7	2382.1	2364.7	2357.6	2350.6	2333.0	2311.9	2294.3	2280.3	2262.7
12.5°	2406.8	2385.6	2364.7	2350.6	2336.5	2325.9	2304.8	2283.8	2262.7	2234.6	2220.5
15°	2385.6	2357.6	2336.5	2311.9	2301.3	2283.8	2266.2	2234.6	2210.0	2185.4	2167.8
17.5°	2343.5	2308.3	2283.8	2259.2	2241.6	2231.0	2203.0	2174.9	2146.7	2118.7	2097.6
20°	2280.3	2248.6	2220.5	2188.9	2174.9	2160.8	2125.7	2097.6	2069.4	2037.9	2016.7
22.5°	2203.0	2171.3	2132.7	2108.1	2087.0	2069.4	2037.9	2006.2	1978.1	1950.0	1921.8
25°	2108.1	2076.4	2041.4	2002.7	1988.7	1971.1	1935.9	1904.4	1872.7	1841.1	1816.5
27.5°	2006.2	1964.1	1935.9	1893.8	1879.7	1862.1	1823.5	1788.4	1760.3	1735.7	1707.5
30°	1883.3	1851.6	1813.0	1774.3	1760.3	1742.7	1711.1	1679.5	1651.3	1623.2	1595.2
32.5°	1749.8	1718.1	1679.5	1651.3	1630.2	1616.2	1584.6	1556.5	1528.4	1500.3	1475.6
35°	1609.2	1574.0	1545.9	1517.9	1500.3	1482.7	1451.1	1426.5	1405.4	1380.9	1356.2
37.5°	1465.2	1440.6	1412.4	1380.9	1363.3	1349.2	1324.6	1296.5	1278.9	1257.8	1240.3
40°	1324.6	1296.5	1271.9	1243.7	1229.8	1219.2	1194.6	1173.5	1156.0	1138.4	1127.8
42.5°	1180.5	1156.0	1131.4	1113.8	1103.2	1092.6	1075.2	1050.5	1040.0	1022.4	1011.9
45°	1047.0	1025.9	1008.4	983.8	976.8	969.7	948.6	931.1	920.6	910.0	903.0
47.5°	920.6	906.5	885.4	871.3	860.9	853.8	839.8	825.7	815.1	808.1	801.0
50°	811.6	794.0	780.0	766.0	758.9	748.4	734.3	727.3	720.2	713.3	713.3
52.5°	709.8	692.2	678.1	667.6	660.5	653.5	642.9	639.4	632.5	632.5	629.0
55°	614.9	604.3	590.3	576.2	572.7	569.1	562.2	555.2	551.7	548.1	551.7
57.5°	534.1	523.5	509.4	498.9	495.4	491.8	488.4	481.4	477.9	477.9	477.9
60°	460.3	449.7	439.2	428.6	428.6	421.6	418.1	414.5	411.1	407.6	407.6
62.5°	393.5	383.0	372.4	365.4	361.9	358.4	351.3	347.8	344.3	344.3	340.8
65°	333.8	319.8	316.2	305.7	302.2	298.6	295.1	288.1	284.6	281.1	277.5
67.5°	274.0	267.0	256.5	249.5	246.0	242.5	238.9	231.9	228.4	224.9	217.8
70°	221.3	214.3	207.3	200.2	196.7	193.2	186.3	179.2	175.7	168.7	158.1
72.5°	172.2	165.2	158.1	151.1	147.6	144.0	137.0	130.0	122.9	115.9	109.0
75°	130.0	122.9	112.5	105.5	101.9	101.9	91.4	84.3	77.3	66.7	59.7
77.5°	91.4	80.8	77.3	70.3	66.7	59.7	52.7	45.6	38.6	35.2	28.2
80°	59.7	52.7	45.6	42.1	38.6	35.2	31.7	24.6	17.6	14.1	10.6
82.5°	35.2	31.7	28.2	24.6	21.1	17.6	14.1	14.1	10.6	7.0	3.5
85°	17.6	14.1	10.6	10.6	7.0	7.0	7.0	3.5	3.5	3.5	3.5
87.5°	7.0	3.5	3.5	3.5	3.5	3.5	3.5	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°	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6
2.5°	2340.0	2336.5	2333.0	2329.5	2329.5	2322.4	2322.4	2318.9	2311.9	2308.3	2308.3
5°	2318.9	2308.3	2301.3	2297.8	2294.3	2283.8	2280.3	2273.3	2266.2	2259.2	2255.7
7.5°	2287.4	2269.8	2262.7	2259.2	2248.6	2238.1	2231.0	2220.5	2210.0	2199.5	2196.0
10°	2248.6	2231.0	2213.6	2206.5	2196.0	2188.9	2174.9	2160.8	2150.2	2139.8	2129.2
12.5°	2199.5	2178.4	2160.8	2153.7	2143.2	2129.2	2108.1	2101.1	2083.5	2076.4	2062.5
15°	2143.2	2118.7	2101.1	2090.5	2080.0	2059.0	2044.9	2030.8	2013.2	2006.2	1992.1
17.5°	2072.9	2044.9	2027.3	2016.7	2009.7	1992.1	1971.1	1953.5	1935.9	1928.9	1918.3
20°	1988.7	1971.1	1946.5	1935.9	1928.9	1907.9	1886.8	1879.7	1865.7	1851.6	1841.1
22.5°	1893.8	1876.2	1851.6	1841.1	1837.6	1820.0	1802.4	1791.9	1781.3	1770.8	1760.3
25°	1795.4	1774.3	1753.3	1746.2	1739.2	1725.1	1711.1	1704.0	1693.5	1686.5	1679.5
27.5°	1690.1	1668.9	1651.3	1640.8	1633.8	1623.2	1616.2	1609.2	1602.2	1595.2	1591.6
30°	1577.6	1556.5	1542.4	1535.5	1528.4	1524.9	1514.3	1510.8	1507.3	1500.3	1503.8
32.5°	1465.2	1447.6	1433.5	1423.0	1423.0	1415.9	1412.4	1412.4	1408.9	1408.9	1408.9
35°	1342.1	1331.6	1321.0	1317.5	1314.1	1310.6	1307.1	1310.6	1307.1	1310.6	1314.1
37.5°	1229.8	1219.2	1212.2	1208.7	1205.1	1208.7	1205.1	1205.1	1208.7	1215.7	1219.2
40°	1113.8	1106.7	1099.7	1103.2	1099.7	1099.7	1099.7	1110.2	1113.8	1117.3	1120.8
42.5°	1004.9	997.9	994.4	994.4	997.9	994.4	1001.4	1004.9	1011.9	1022.4	1029.4
45°	899.5	895.9	895.9	899.5	895.9	903.0	903.0	910.0	920.6	927.6	934.6
47.5°	801.0	801.0	801.0	804.6	804.6	808.1	815.1	818.6	825.7	832.7	839.8
50°	709.8	713.3	716.7	716.7	716.7	723.7	730.8	734.3	737.8	741.3	751.9
52.5°	629.0	632.5	632.5	636.0	639.4	642.9	646.4	653.5	657.0	664.0	667.6
55°	551.7	551.7	558.7	562.2	562.2	562.2	569.1	569.1	576.2	579.7	586.7
57.5°	477.9	481.4	481.4	484.9	484.9	488.4	491.8	495.4	498.9	502.4	505.9
60°	407.6	407.6	407.6	411.1	414.5	418.1	414.5	421.6	421.6	428.6	432.1
62.5°	340.8	344.3	344.3	344.3	344.3	344.3	344.3	347.8	351.3	354.8	358.4
65°	277.5	277.5	277.5	274.0	277.5	274.0	277.5	281.1	281.1	284.6	288.1
67.5°	214.3	214.3	207.3	207.3	210.8	210.8	210.8	210.8	207.3	214.3	214.3
70°	154.6	151.1	147.6	144.0	144.0	140.5	140.5	137.0	137.0	137.0	137.0
72.5°	101.9	94.9	87.9	84.3	80.8	80.8	73.8	70.3	73.8	73.8	73.8
75°	52.7	45.6	42.1	38.6	35.2	35.2	31.7	31.7	31.7	31.7	31.7
77.5°	21.1	17.6	14.1	14.1	10.6	10.6	10.6	10.6	10.6	10.6	10.6
80°	7.0	7.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	3.5	0.0	0.0	3.5	0.0	3.5	3.5	3.5	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: P593785

CATALOG NUMBER: HC845D010-HM82555950-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6	2350.6
2.5°	2304.8	2304.8	2301.3	2304.8	2297.8	2301.3	2297.8	2297.8
5°	2252.2	2245.1	2245.1	2245.1	2241.6	2241.6	2238.1	2238.1
7.5°	2188.9	2185.4	2181.9	2178.4	2174.9	2171.3	2171.3	2171.3
10°	2125.7	2118.7	2118.7	2115.2	2108.1	2104.6	2104.6	2104.6
12.5°	2051.9	2048.4	2044.9	2044.9	2030.8	2034.3	2030.8	2030.8
15°	1981.7	1978.1	1978.1	1967.6	1960.6	1960.6	1960.6	1957.0
17.5°	1907.9	1904.4	1900.8	1893.8	1886.8	1886.8	1883.3	1886.8
20°	1830.6	1827.1	1820.0	1820.0	1816.5	1813.0	1806.0	1809.5
22.5°	1753.3	1746.2	1742.7	1742.7	1739.2	1739.2	1732.2	1732.2
25°	1672.5	1668.9	1665.4	1668.9	1661.9	1661.9	1654.9	1654.9
27.5°	1588.1	1584.6	1584.6	1584.6	1581.1	1584.6	1581.1	1581.1
30°	1503.8	1503.8	1500.3	1500.3	1503.8	1500.3	1503.8	1507.3
32.5°	1412.4	1412.4	1415.9	1415.9	1419.4	1419.4	1419.4	1419.4
35°	1317.5	1324.6	1324.6	1328.1	1331.6	1335.1	1335.1	1338.6
37.5°	1229.8	1233.3	1236.8	1240.3	1247.3	1247.3	1247.3	1247.3
40°	1134.9	1138.4	1145.4	1141.9	1156.0	1159.5	1156.0	1156.0
42.5°	1036.5	1043.5	1047.0	1054.1	1057.6	1064.6	1068.1	1068.1
45°	945.1	948.6	955.6	962.7	966.2	976.8	976.8	976.8
47.5°	850.3	857.3	860.9	867.8	871.3	881.9	885.4	881.9
50°	758.9	766.0	773.0	773.0	783.6	787.1	794.0	797.5
52.5°	671.1	674.6	681.6	685.1	692.2	699.2	702.7	706.3
55°	586.7	590.3	597.3	597.3	607.8	611.4	618.4	618.4
57.5°	509.4	513.0	520.0	516.5	523.5	530.5	530.5	527.0
60°	435.7	435.7	435.7	442.7	446.2	449.7	453.2	453.2
62.5°	358.4	365.4	368.9	368.9	372.4	375.9	375.9	372.4
65°	288.1	295.1	298.6	298.6	302.2	302.2	302.2	305.7
67.5°	217.8	217.8	217.8	221.3	217.8	217.8	217.8	217.8
70°	137.0	137.0	137.0	137.0	133.5	137.0	137.0	140.5
72.5°	73.8	73.8	73.8	73.8	73.8	73.8	73.8	73.8
75°	31.7	31.7	31.7	35.2	31.7	31.7	31.7	31.7
77.5°	14.1	10.6	14.1	14.1	10.6	10.6	10.6	10.6
80°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	0.0	3.5	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)