

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: P584760

Luminaire Tested: **HC845D010-HM82555935-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584760
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: HC845D010-HM82555935-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4323.4 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

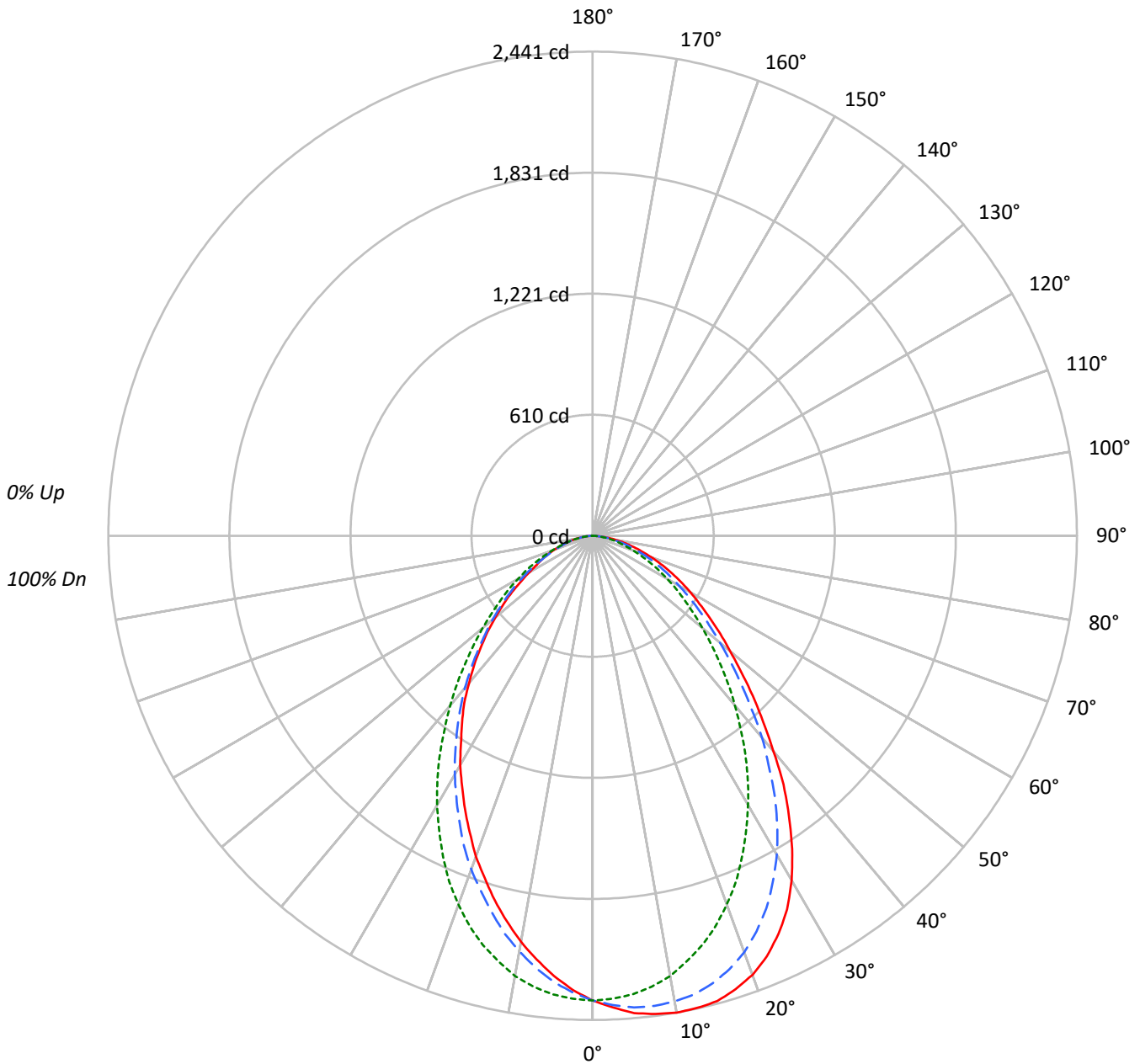
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					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°	72237	72237	72237
5°	74779	71826	68972
10°	76436	70568	65091
15°	77528	68190	60783
20°	77293	64879	56429
25°	75377	60672	51805
30°	71416	55796	47535
35°	64974	50492	43193
40°	57068	44907	39026
45°	49762	39506	34796
50°	43305	34612	30650
55°	38617	30413	26655
60°	35092	26661	22739
65°	31543	23196	20642
70°	28085	19781	18627
75°	24615	16656	15906
80°	20901	13532	14100
85°	15744	10119	11251



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.4	5.1
10°-20°	604.6	14.0
20°-30°	839.2	19.4
30°-40°	867.7	20.1
40°-50°	726.5	16.8
50°-60°	527.4	12.2
60°-70°	332.8	7.7
70°-80°	164.9	3.8
80°-90°	41.0	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°	1663.2	38.5
0°-40°	2530.9	58.5
0°-60°	3784.7	87.5
0°-90°	4323.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4323.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2343	2343	2343	2343	2343	
5°	2416	2387	2320	2257	2228	231
15°	2428	2336	2136	1964	1904	683
25°	2215	2072	1783	1589	1523	1015
35°	1726	1599	1341	1189	1147	1075
45°	1141	1058	906	817	798	883
55°	718	655	566	518	496	648
65°	432	378	318	280	283	431
75°	207	172	140	134	134	222
85°	44	35	29	32	32	54
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°	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6
2.5°	2380.7	2380.7	2384.0	2380.7	2380.7	2380.7	2377.6	2377.6	2374.4	2374.4	2368.1
5°	2415.8	2409.3	2415.8	2409.3	2409.3	2409.3	2406.2	2399.8	2396.7	2390.3	2387.2
7.5°	2431.6	2428.5	2428.5	2425.3	2425.3	2422.1	2419.0	2415.8	2403.0	2399.8	2390.3
10°	2441.1	2438.0	2438.0	2434.8	2428.5	2428.5	2422.1	2419.0	2403.0	2396.7	2384.0
12.5°	2438.0	2438.0	2438.0	2434.8	2425.3	2422.1	2415.8	2406.2	2393.5	2380.7	2368.1
15°	2428.5	2428.5	2422.1	2419.0	2409.3	2403.0	2399.8	2384.0	2371.2	2355.4	2336.3
17.5°	2396.7	2396.7	2393.5	2387.2	2377.6	2371.2	2364.9	2348.9	2336.3	2310.8	2291.8
20°	2355.4	2352.2	2348.9	2339.4	2329.9	2326.8	2317.1	2295.0	2279.0	2260.0	2234.6
22.5°	2295.0	2291.8	2288.6	2282.2	2266.4	2260.0	2253.7	2237.7	2209.1	2190.1	2158.3
25°	2215.4	2215.4	2209.1	2199.6	2183.7	2177.3	2167.8	2151.9	2126.5	2097.9	2072.5
27.5°	2123.4	2120.1	2110.6	2104.2	2091.6	2082.0	2066.1	2047.0	2021.5	1999.4	1967.6
30°	2005.7	2005.7	1999.4	1989.8	1973.9	1967.6	1954.8	1932.6	1907.2	1878.6	1856.3
32.5°	1872.2	1872.2	1862.6	1856.3	1846.8	1830.8	1827.7	1802.3	1780.0	1757.7	1732.3
35°	1726.0	1729.1	1722.8	1710.1	1694.2	1694.2	1687.8	1665.5	1640.2	1617.9	1598.8
37.5°	1579.8	1570.2	1567.0	1560.7	1551.2	1538.4	1532.1	1522.6	1500.3	1484.4	1455.8
40°	1417.7	1420.9	1414.5	1408.1	1404.9	1395.4	1392.2	1376.3	1360.4	1341.3	1328.7
42.5°	1271.4	1271.4	1271.4	1265.1	1258.7	1249.2	1246.0	1236.5	1217.5	1204.7	1185.7
45°	1141.1	1131.6	1131.6	1128.4	1125.3	1118.9	1109.3	1103.0	1090.3	1080.7	1058.5
47.5°	1013.9	1017.1	1013.9	1010.8	1001.3	998.1	994.9	982.2	969.5	960.0	944.0
50°	902.7	909.1	902.7	902.7	896.4	893.2	886.8	877.3	867.8	851.8	836.0
52.5°	810.5	810.5	807.4	804.2	794.7	788.3	785.1	781.9	766.1	753.3	740.6
55°	718.3	721.5	721.5	712.0	708.8	702.5	699.3	689.7	683.4	664.3	654.8
57.5°	638.9	635.8	638.9	632.6	626.1	619.8	616.6	610.3	600.8	588.0	575.4
60°	569.0	562.6	562.6	559.4	553.1	549.9	543.6	533.9	524.4	511.8	502.2
62.5°	499.0	495.8	492.7	489.5	483.2	480.0	476.8	467.2	457.7	448.2	438.7
65°	432.3	432.3	429.1	422.7	419.6	416.4	413.2	406.9	394.1	387.8	378.3
67.5°	371.8	368.7	368.7	362.3	356.0	352.8	352.8	346.5	336.9	327.4	321.1
70°	311.5	314.7	311.5	308.4	301.9	301.9	295.6	292.4	279.8	276.6	267.0
72.5°	257.5	257.5	254.3	254.3	248.0	244.8	244.8	238.4	232.0	225.7	219.4
75°	206.6	206.6	206.6	203.4	200.2	193.9	193.9	190.7	184.4	177.9	171.6
77.5°	162.1	158.9	158.9	155.8	152.6	149.4	149.4	146.3	139.8	136.7	130.3
80°	117.7	114.5	114.5	114.5	108.0	111.2	108.0	104.9	101.7	98.5	95.4
82.5°	76.2	79.4	79.4	76.2	73.1	73.1	73.1	69.9	69.9	66.7	63.6
85°	44.5	44.5	44.5	44.5	41.3	41.3	41.3	38.1	38.1	38.1	35.0
87.5°	19.1	19.1	19.1	19.1	19.1	19.1	15.8	15.8	15.8	15.8	15.8
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°	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6
2.5°	2368.1	2361.7	2358.6	2355.4	2355.4	2352.2	2348.9	2342.6	2342.6	2336.3	2333.1
5°	2380.7	2371.2	2364.9	2358.6	2355.4	2348.9	2342.6	2333.1	2329.9	2320.4	2310.8
7.5°	2384.0	2368.1	2361.7	2348.9	2342.6	2336.3	2323.6	2314.0	2301.3	2291.8	2279.0
10°	2371.2	2358.6	2342.6	2326.8	2323.6	2314.0	2295.0	2282.2	2266.4	2253.7	2234.6
12.5°	2352.2	2333.1	2317.1	2298.1	2288.6	2279.0	2260.0	2240.9	2218.6	2196.4	2177.3
15°	2320.4	2298.1	2275.9	2253.7	2240.9	2231.4	2209.1	2186.8	2164.7	2136.0	2116.9
17.5°	2272.7	2247.2	2225.1	2196.4	2183.7	2174.2	2145.5	2120.1	2091.6	2063.0	2043.8
20°	2212.3	2180.5	2155.0	2123.4	2113.7	2097.9	2069.3	2040.7	2008.9	1977.1	1954.8
22.5°	2132.9	2101.1	2072.5	2040.7	2024.7	2008.9	1980.3	1945.3	1913.5	1888.1	1865.9
25°	2040.7	2012.0	1977.1	1948.5	1929.5	1910.3	1878.6	1849.9	1821.3	1783.2	1760.9
27.5°	1939.0	1904.0	1878.6	1840.4	1821.3	1808.6	1773.7	1735.6	1710.1	1675.2	1649.7
30°	1824.5	1792.7	1764.1	1726.0	1706.9	1694.2	1662.4	1627.4	1602.0	1567.0	1541.7
32.5°	1703.8	1668.7	1633.8	1608.4	1586.1	1573.5	1538.4	1516.2	1484.4	1455.8	1427.2
35°	1573.5	1538.4	1513.1	1478.1	1465.3	1452.6	1424.0	1395.4	1366.8	1341.3	1319.2
37.5°	1433.5	1408.1	1379.6	1354.1	1344.5	1331.8	1296.9	1271.4	1249.2	1223.8	1204.7
40°	1296.9	1274.6	1255.6	1230.1	1214.2	1204.7	1179.2	1157.0	1131.6	1115.6	1096.6
42.5°	1172.9	1147.4	1128.4	1109.3	1093.5	1083.9	1061.7	1045.7	1026.7	1010.8	988.5
45°	1042.6	1029.9	1007.6	991.8	982.2	969.5	953.5	934.5	918.6	905.9	890.0
47.5°	928.2	915.4	899.6	880.5	874.1	864.6	848.7	836.0	823.2	810.5	794.7
50°	823.2	807.4	794.7	781.9	775.6	766.1	750.1	743.8	734.3	721.5	712.0
52.5°	727.8	715.2	702.5	686.6	683.4	677.1	667.6	654.8	645.3	638.9	632.6
55°	642.1	629.3	619.8	607.1	604.0	597.5	584.9	578.5	572.2	565.7	559.4
57.5°	565.7	553.1	540.4	533.9	527.6	521.3	518.1	508.6	502.2	499.0	492.7
60°	495.8	483.2	473.7	464.0	460.9	457.7	451.4	445.0	438.7	432.3	429.1
62.5°	429.1	416.4	410.1	403.6	397.3	397.3	391.0	384.6	378.3	375.1	368.7
65°	368.7	362.3	352.8	343.3	340.1	340.1	330.6	327.4	324.2	317.9	311.5
67.5°	311.5	305.1	295.6	292.4	289.3	286.1	282.9	276.6	270.1	267.0	260.6
70°	260.6	254.3	248.0	244.8	241.5	238.4	232.0	228.9	222.5	219.4	216.2
72.5°	209.7	206.6	200.2	197.1	193.9	190.7	187.6	184.4	177.9	174.8	171.6
75°	168.4	165.3	158.9	155.8	152.6	152.6	149.4	143.0	139.8	139.8	136.7
77.5°	127.2	124.0	120.8	117.7	114.5	114.5	111.2	108.0	104.9	104.9	101.7
80°	92.2	89.0	85.9	85.9	85.9	82.7	79.4	79.4	76.2	76.2	73.1
82.5°	60.4	60.4	57.2	57.2	57.2	54.1	54.1	50.9	50.9	50.9	50.9
85°	35.0	35.0	35.0	31.8	31.8	31.8	31.8	31.8	31.8	28.6	31.8
87.5°	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	12.7	12.7	12.7
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°	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6
2.5°	2329.9	2326.8	2320.4	2320.4	2314.0	2314.0	2310.8	2307.6	2304.5	2301.3	2298.1
5°	2307.6	2295.0	2288.6	2285.5	2279.0	2275.9	2266.4	2260.0	2256.9	2250.4	2244.1
7.5°	2266.4	2253.7	2240.9	2237.7	2234.6	2221.9	2212.3	2202.8	2196.4	2190.1	2183.7
10°	2218.6	2205.9	2190.1	2183.7	2177.3	2161.5	2148.7	2139.2	2126.5	2113.7	2110.6
12.5°	2161.5	2142.4	2123.4	2116.9	2107.4	2091.6	2078.8	2063.0	2053.3	2037.5	2034.3
15°	2094.7	2072.5	2056.5	2040.7	2034.3	2018.4	1996.2	1983.4	1964.4	1958.0	1942.1
17.5°	2015.2	1992.9	1970.8	1964.4	1954.8	1932.6	1910.3	1894.4	1875.4	1865.9	1856.3
20°	1932.6	1904.0	1881.7	1875.4	1862.6	1843.6	1821.3	1805.5	1789.5	1770.5	1760.9
22.5°	1837.3	1805.5	1786.4	1770.5	1767.4	1745.1	1719.6	1706.9	1694.2	1678.3	1665.5
25°	1732.3	1703.8	1681.5	1668.7	1662.4	1643.4	1624.3	1608.4	1589.3	1579.8	1563.8
27.5°	1624.3	1605.3	1576.6	1563.8	1554.3	1538.4	1516.2	1506.6	1487.6	1474.8	1465.3
30°	1519.4	1490.8	1474.8	1459.0	1449.5	1433.5	1414.5	1404.9	1389.1	1376.3	1366.8
32.5°	1404.9	1385.9	1363.6	1357.3	1344.5	1328.7	1316.0	1300.0	1287.4	1274.6	1271.4
35°	1300.0	1274.6	1252.4	1246.0	1236.5	1220.6	1214.2	1204.7	1188.8	1185.7	1172.9
37.5°	1185.7	1172.9	1147.4	1137.9	1134.8	1122.1	1109.3	1103.0	1093.5	1083.9	1080.7
40°	1077.5	1061.7	1048.9	1039.4	1033.1	1023.6	1010.8	1007.6	1001.3	988.5	985.3
42.5°	975.8	960.0	947.2	944.0	934.5	925.0	918.6	909.1	905.9	902.7	896.4
45°	877.3	867.8	855.0	851.8	848.7	836.0	829.7	823.2	816.9	813.7	807.4
47.5°	788.3	778.8	769.3	766.1	759.6	756.5	747.0	743.8	734.3	731.1	727.8
50°	702.5	696.1	689.7	686.6	680.2	677.1	670.7	664.3	657.9	654.8	651.6
52.5°	626.1	619.8	613.5	610.3	607.1	600.8	594.4	588.0	584.9	581.7	578.5
55°	553.1	546.7	543.6	540.4	537.2	533.9	524.4	521.3	518.1	514.9	508.6
57.5°	486.3	480.0	473.7	473.7	470.5	467.2	460.9	454.5	454.5	448.2	441.9
60°	425.9	419.6	413.2	410.1	406.9	400.5	397.3	394.1	391.0	387.8	381.5
62.5°	362.3	359.2	352.8	352.8	346.5	343.3	340.1	336.9	333.7	327.4	324.2
65°	308.4	305.1	298.8	295.6	295.6	292.4	286.1	282.9	279.8	279.8	276.6
67.5°	257.5	254.3	248.0	244.8	244.8	241.5	238.4	238.4	235.2	232.0	235.2
70°	213.0	206.6	206.6	203.4	203.4	200.2	197.1	197.1	197.1	200.2	200.2
72.5°	168.4	165.3	162.1	162.1	162.1	162.1	158.9	158.9	162.1	165.3	165.3
75°	133.5	130.3	130.3	130.3	127.2	127.2	130.3	130.3	133.5	133.5	133.5
77.5°	98.5	98.5	98.5	98.5	98.5	98.5	101.7	101.7	104.9	104.9	104.9
80°	73.1	73.1	73.1	73.1	73.1	76.2	76.2	76.2	76.2	76.2	79.4
82.5°	50.9	50.9	50.9	50.9	50.9	50.9	50.9	54.1	54.1	54.1	54.1
85°	28.6	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8
87.5°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
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: P584760

CATALOG NUMBER: HC845D010-HM82555935-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6	2342.6
2.5°	2295.0	2295.0	2295.0	2298.1	2291.8	2291.8	2291.8	2291.8
5°	2240.9	2237.7	2234.6	2237.7	2231.4	2231.4	2228.2	2228.2
7.5°	2174.2	2171.0	2167.8	2167.8	2161.5	2161.5	2158.3	2155.0
10°	2101.1	2094.7	2097.9	2091.6	2088.3	2085.1	2082.0	2078.8
12.5°	2021.5	2015.2	2012.0	2005.7	1999.4	1996.2	1999.4	1992.9
15°	1935.8	1926.2	1923.0	1916.7	1910.3	1907.2	1907.2	1904.0
17.5°	1840.4	1834.1	1830.8	1824.5	1821.3	1815.0	1811.8	1808.6
20°	1751.4	1735.6	1738.7	1732.3	1729.1	1716.5	1716.5	1719.6
22.5°	1652.9	1643.4	1636.9	1630.6	1627.4	1621.1	1621.1	1617.9
25°	1554.3	1544.8	1541.7	1535.2	1532.1	1525.7	1522.6	1522.6
27.5°	1459.0	1446.3	1446.3	1439.9	1433.5	1430.4	1427.2	1424.0
30°	1357.3	1347.8	1344.5	1344.5	1341.3	1341.3	1331.8	1335.0
32.5°	1261.9	1255.6	1252.4	1246.0	1246.0	1242.8	1242.8	1233.3
35°	1166.5	1157.0	1160.2	1153.9	1150.6	1147.4	1150.6	1147.4
37.5°	1074.4	1068.0	1068.0	1061.7	1061.7	1058.5	1055.3	1061.7
40°	982.2	979.0	975.8	972.7	975.8	972.7	966.3	969.5
42.5°	890.0	890.0	886.8	886.8	883.6	883.6	883.6	883.6
45°	807.4	804.2	804.2	801.0	801.0	801.0	801.0	797.9
47.5°	724.7	721.5	721.5	721.5	718.3	718.3	715.2	718.3
50°	645.3	645.3	642.1	642.1	645.3	642.1	638.9	638.9
52.5°	572.2	572.2	569.0	569.0	565.7	562.6	565.7	565.7
55°	505.4	502.2	499.0	499.0	495.8	492.7	492.7	495.8
57.5°	441.9	438.7	435.4	435.4	429.1	425.9	425.9	425.9
60°	381.5	375.1	375.1	371.8	371.8	368.7	368.7	368.7
62.5°	324.2	321.1	321.1	321.1	321.1	317.9	317.9	317.9
65°	276.6	276.6	276.6	279.8	279.8	282.9	282.9	282.9
67.5°	238.4	241.5	241.5	241.5	244.8	244.8	244.8	241.5
70°	203.4	203.4	203.4	206.6	206.6	206.6	206.6	206.6
72.5°	168.4	168.4	168.4	168.4	168.4	168.4	168.4	168.4
75°	133.5	136.7	136.7	136.7	133.5	136.7	136.7	133.5
77.5°	104.9	104.9	104.9	104.9	104.9	104.9	104.9	104.9
80°	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4
82.5°	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1
85°	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8
87.5°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
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)