

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: P584752

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584752
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: HC845D010-HM82555935-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4526.9 lumens
Efficiency: N/A
Efficacy: 102.9 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

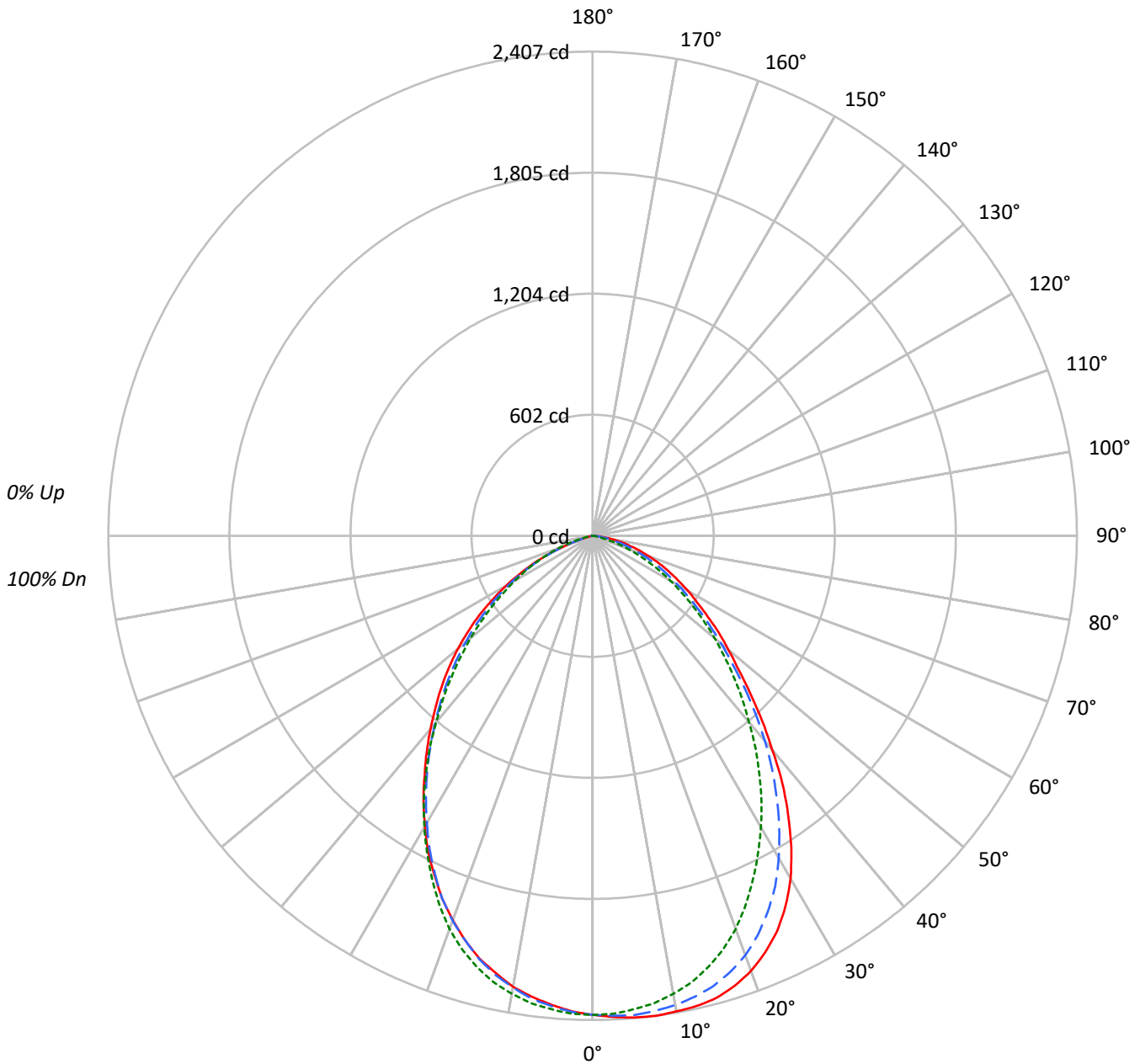
Input Watts (W): 44
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77			77
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67			67
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59			59
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47			47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	73449	73449	73449
5°	74417	73138	72448
10°	75177	72390	71294
15°	75938	70862	69441
20°	75554	68246	66684
25°	73791	64159	63298
30°	70088	59559	59335
35°	63807	54347	54829
40°	55941	48643	50434
45°	48258	43265	46322
50°	42259	37985	41952
55°	37439	32655	36929
60°	33735	27457	30596
65°	30390	22035	23436
70°	26660	16057	12902
75°	22732	8328	3407
80°	17492	2255	568
85°	11251	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	224.7	5.0
10°-20°	631.7	14.0
20°-30°	896.7	19.8
30°-40°	943.9	20.9
40°-50°	803.0	17.7
50°-60°	580.2	12.8
60°-70°	330.0	7.3
70°-80°	104.0	2.3
80°-90°	12.6	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°	1753.2	38.7
0°-40°	2697.0	59.6
0°-60°	4080.2	90.1
0°-90°	4526.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4526.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2382	2382	2382	2382	2382	
5°	2404	2391	2363	2347	2340	229
15°	2379	2318	2220	2178	2175	670
25°	2169	2061	1886	1854	1860	993
35°	1695	1596	1444	1434	1456	1055
45°	1107	1065	992	1018	1062	860
55°	696	646	607	642	687	628
65°	416	359	302	299	321	413
75°	191	146	70	32	29	205
85°	32	19	0	0	0	41
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°	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9
2.5°	2394.6	2397.7	2391.4	2391.4	2397.7	2391.4	2394.6	2394.6	2391.4	2391.4	2388.2
5°	2404.1	2400.9	2400.9	2400.9	2404.1	2397.7	2394.6	2397.7	2391.4	2391.4	2391.4
7.5°	2407.3	2407.3	2404.1	2400.9	2400.9	2400.9	2397.7	2394.6	2391.4	2385.1	2381.9
10°	2400.9	2400.9	2404.1	2397.7	2397.7	2391.4	2391.4	2385.1	2385.1	2378.7	2369.1
12.5°	2394.6	2391.4	2391.4	2385.1	2385.1	2378.7	2378.7	2369.1	2365.9	2356.4	2346.8
15°	2378.7	2375.4	2369.1	2365.9	2362.8	2359.6	2353.3	2350.1	2340.5	2327.8	2318.2
17.5°	2346.8	2343.7	2340.5	2334.2	2327.8	2324.7	2321.5	2311.9	2299.2	2289.6	2273.7
20°	2302.4	2299.2	2299.2	2289.6	2286.4	2276.9	2273.7	2261.0	2251.5	2232.3	2219.7
22.5°	2242.0	2245.1	2238.8	2232.3	2226.0	2216.5	2210.2	2197.4	2181.5	2162.4	2146.6
25°	2168.8	2171.9	2165.6	2159.3	2149.8	2143.3	2137.0	2118.0	2102.0	2079.7	2060.7
27.5°	2076.6	2076.6	2076.6	2070.2	2054.3	2051.1	2044.8	2025.7	2003.5	1984.4	1965.2
30°	1968.4	1965.2	1965.2	1955.7	1949.4	1936.6	1927.1	1911.2	1895.3	1873.0	1850.8
32.5°	1838.1	1841.3	1831.8	1825.3	1815.8	1815.8	1803.1	1790.3	1771.2	1749.1	1726.8
35°	1695.0	1698.2	1691.8	1688.7	1672.7	1669.5	1666.4	1650.4	1637.7	1621.8	1596.3
37.5°	1548.7	1545.5	1542.4	1542.4	1532.8	1526.4	1520.1	1510.5	1491.5	1478.7	1466.0
40°	1389.7	1389.7	1389.7	1386.5	1383.3	1377.0	1373.8	1367.4	1354.7	1342.0	1332.4
42.5°	1246.5	1246.5	1243.4	1240.2	1233.9	1237.0	1230.7	1224.4	1211.6	1202.1	1195.8
45°	1106.6	1106.6	1106.6	1109.9	1103.4	1093.9	1093.9	1087.6	1081.3	1074.8	1065.3
47.5°	982.6	992.1	985.8	982.6	985.8	973.1	973.1	966.8	960.3	954.0	941.3
50°	880.9	880.9	880.9	874.5	871.3	871.3	861.8	855.5	852.3	845.9	833.2
52.5°	788.6	782.3	782.3	779.1	775.9	769.6	769.6	763.2	750.5	744.2	734.6
55°	696.4	696.4	693.2	690.1	686.9	683.7	680.6	671.0	664.6	655.1	645.5
57.5°	613.7	620.2	616.9	610.5	604.2	604.2	597.9	591.5	581.9	572.4	562.9
60°	547.0	543.8	543.8	540.6	534.3	531.0	527.8	518.3	508.8	499.2	489.7
62.5°	477.1	477.1	477.1	470.6	464.3	461.1	457.9	451.6	438.8	429.3	423.0
65°	416.5	413.4	410.2	407.0	403.9	397.5	394.4	387.9	378.4	368.9	359.3
67.5°	356.1	353.0	353.0	349.8	340.3	337.1	337.1	327.5	318.0	308.5	298.9
70°	295.7	295.7	295.7	289.4	286.2	283.0	279.9	273.4	263.9	254.4	244.9
72.5°	244.9	241.6	241.6	238.5	229.0	225.8	222.6	216.3	206.7	200.3	194.0
75°	190.8	190.8	187.7	184.4	181.2	178.1	174.9	168.6	159.1	149.4	146.3
77.5°	146.3	143.1	143.1	139.9	133.6	130.4	130.4	124.0	114.5	108.2	101.8
80°	98.5	101.8	98.5	95.4	92.2	89.0	85.9	82.7	76.4	69.9	63.6
82.5°	60.4	63.6	60.4	60.4	57.2	54.1	54.1	47.7	44.6	41.3	38.1
85°	31.8	31.8	31.8	31.8	28.6	28.6	28.6	25.5	22.3	19.1	19.1
87.5°	9.5	12.7	9.5	9.5	9.5	9.5	9.5	9.5	6.3	6.3	6.3
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°	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9
2.5°	2391.4	2388.2	2385.1	2385.1	2385.1	2385.1	2385.1	2381.9	2378.7	2378.7	2378.7
5°	2385.1	2385.1	2385.1	2381.9	2378.7	2378.7	2372.3	2369.1	2365.9	2362.8	2359.6
7.5°	2378.7	2372.3	2369.1	2365.9	2362.8	2362.8	2356.4	2350.1	2350.1	2343.7	2337.3
10°	2359.6	2356.4	2350.1	2343.7	2340.5	2337.3	2331.0	2321.5	2318.2	2311.9	2305.5
12.5°	2337.3	2331.0	2324.7	2311.9	2308.7	2305.5	2292.9	2283.2	2276.9	2273.7	2257.8
15°	2308.7	2296.0	2286.4	2270.6	2267.4	2261.0	2251.5	2242.0	2229.2	2219.7	2213.3
17.5°	2257.8	2245.1	2229.2	2213.3	2207.0	2207.0	2191.0	2178.4	2162.4	2156.1	2143.3
20°	2197.4	2181.5	2168.8	2149.8	2140.1	2130.6	2121.1	2102.0	2089.3	2079.7	2063.9
22.5°	2127.5	2105.2	2089.3	2070.2	2054.3	2044.8	2028.8	2013.0	1997.0	1987.5	1974.9
25°	2038.4	2019.3	1993.9	1974.9	1965.2	1952.6	1933.5	1917.6	1901.7	1885.7	1879.4
27.5°	1939.8	1914.3	1892.2	1869.9	1860.4	1850.8	1828.5	1809.5	1796.7	1780.8	1774.5
30°	1831.8	1806.3	1780.8	1761.7	1752.2	1736.3	1723.6	1701.3	1685.5	1672.7	1656.9
32.5°	1707.7	1688.7	1666.4	1637.7	1631.4	1618.6	1599.6	1590.0	1571.0	1561.4	1548.7
35°	1574.2	1561.4	1539.1	1516.9	1507.3	1501.0	1485.1	1466.0	1453.2	1443.7	1437.4
37.5°	1446.9	1431.1	1408.8	1392.8	1386.5	1377.0	1357.9	1348.4	1335.6	1329.2	1316.6
40°	1310.1	1294.3	1278.3	1268.8	1259.3	1252.9	1240.2	1230.7	1217.9	1208.4	1205.3
42.5°	1176.6	1167.1	1154.3	1141.7	1138.5	1128.9	1122.6	1113.1	1103.4	1100.3	1090.8
45°	1055.8	1046.2	1033.5	1020.7	1017.6	1011.2	1008.1	998.6	992.1	992.1	992.1
47.5°	934.9	925.4	912.7	906.3	909.5	896.8	896.8	893.6	887.3	887.3	890.4
50°	826.8	814.1	810.9	804.6	798.2	791.8	795.1	785.4	785.4	791.8	788.6
52.5°	725.0	712.4	709.2	702.7	699.6	699.6	696.4	696.4	693.2	696.4	696.4
55°	632.8	623.3	616.9	610.5	607.4	607.4	607.4	604.2	601.0	607.4	610.5
57.5°	550.1	547.0	540.6	531.0	527.8	524.7	521.5	521.5	521.5	521.5	524.7
60°	477.1	470.6	464.3	454.8	454.8	451.6	448.4	445.2	445.2	445.2	445.2
62.5°	413.4	403.9	394.4	387.9	384.7	381.6	378.4	372.1	372.1	372.1	372.1
65°	349.8	340.3	334.0	327.5	321.2	321.2	314.8	311.7	305.3	302.0	295.7
67.5°	289.4	283.0	276.7	267.1	263.9	260.8	254.4	251.3	241.6	238.5	235.3
70°	235.3	225.8	219.5	213.0	209.8	203.5	197.2	190.8	184.4	178.1	171.7
72.5°	184.4	174.9	168.6	162.2	155.8	155.8	146.3	139.9	130.4	124.0	114.5
75°	136.8	127.2	120.8	111.3	108.2	105.0	95.4	89.0	79.5	69.9	63.6
77.5°	92.2	85.9	79.5	69.9	63.6	63.6	54.1	47.7	41.3	31.8	28.6
80°	57.2	50.9	44.6	38.1	38.1	31.8	28.6	22.3	16.0	12.7	9.5
82.5°	31.8	28.6	25.5	19.1	19.1	16.0	12.7	9.5	6.3	3.2	3.2
85°	16.0	12.7	9.5	9.5	6.3	6.3	6.3	3.2	3.2	0.0	0.0
87.5°	6.3	3.2	3.2	3.2	3.2	3.2	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9
2.5°	2375.4	2375.4	2372.3	2372.3	2372.3	2369.1	2372.3	2369.1	2369.1	2369.1	2372.3
5°	2362.8	2356.4	2356.4	2353.3	2353.3	2350.1	2353.3	2350.1	2346.8	2343.7	2346.8
7.5°	2337.3	2331.0	2327.8	2324.7	2324.7	2324.7	2321.5	2318.2	2321.5	2311.9	2318.2
10°	2302.4	2299.2	2292.9	2289.6	2286.4	2289.6	2286.4	2280.1	2280.1	2280.1	2276.9
12.5°	2257.8	2251.5	2248.3	2245.1	2238.8	2238.8	2242.0	2235.6	2235.6	2229.2	2229.2
15°	2203.8	2197.4	2191.0	2191.0	2184.7	2184.7	2181.5	2181.5	2178.4	2175.2	2175.2
17.5°	2137.0	2127.5	2121.1	2124.3	2121.1	2118.0	2118.0	2111.5	2108.4	2111.5	2111.5
20°	2057.4	2051.1	2044.8	2047.9	2041.6	2038.4	2041.6	2032.1	2035.3	2035.3	2035.3
22.5°	1968.4	1965.2	1955.7	1955.7	1949.4	1946.2	1949.4	1949.4	1952.6	1949.4	1949.4
25°	1869.9	1863.5	1857.1	1857.1	1853.9	1850.8	1853.9	1857.1	1853.9	1857.1	1857.1
27.5°	1764.9	1755.4	1755.4	1749.1	1749.1	1752.2	1749.1	1752.2	1755.4	1755.4	1761.7
30°	1650.4	1647.2	1644.1	1640.9	1640.9	1644.1	1644.1	1644.1	1647.2	1653.6	1653.6
32.5°	1542.4	1535.9	1529.6	1529.6	1535.9	1532.8	1535.9	1535.9	1542.4	1542.4	1548.7
35°	1424.6	1424.6	1418.3	1421.4	1421.4	1421.4	1421.4	1427.9	1434.2	1437.4	1443.7
37.5°	1316.6	1307.0	1310.1	1310.1	1313.4	1310.1	1319.7	1319.7	1326.1	1326.1	1332.4
40°	1198.9	1198.9	1202.1	1198.9	1202.1	1202.1	1208.4	1214.8	1217.9	1224.4	1227.5
42.5°	1087.6	1093.9	1087.6	1090.8	1093.9	1097.1	1100.3	1103.4	1116.2	1122.6	1132.1
45°	985.8	989.0	992.1	995.4	992.1	998.6	1001.7	1008.1	1017.6	1020.7	1024.0
47.5°	887.3	890.4	893.6	896.8	896.8	903.1	906.3	912.7	919.0	922.2	925.4
50°	791.8	798.2	801.4	801.4	804.6	810.9	817.2	817.2	823.7	833.2	836.3
52.5°	706.0	706.0	712.4	715.5	718.7	718.7	728.2	731.4	734.6	741.0	747.3
55°	610.5	620.2	623.3	623.3	629.7	636.0	639.2	642.3	642.3	655.1	655.1
57.5°	527.8	531.0	537.5	537.5	537.5	547.0	547.0	553.3	556.5	559.6	566.1
60°	445.2	451.6	451.6	454.8	451.6	457.9	461.1	467.4	470.6	473.8	477.1
62.5°	368.9	368.9	372.1	372.1	372.1	372.1	378.4	378.4	384.7	387.9	391.2
65°	295.7	295.7	295.7	295.7	295.7	295.7	295.7	295.7	298.9	298.9	305.3
67.5°	229.0	225.8	219.5	222.6	219.5	219.5	216.3	216.3	219.5	219.5	225.8
70°	165.4	162.2	155.8	155.8	152.6	149.4	146.3	143.1	139.9	139.9	139.9
72.5°	108.2	101.8	92.2	89.0	89.0	82.7	76.4	73.2	73.2	73.2	73.2
75°	54.1	47.7	41.3	38.1	38.1	31.8	35.0	31.8	31.8	31.8	31.8
77.5°	22.3	16.0	12.7	12.7	12.7	9.5	9.5	9.5	9.5	9.5	9.5
80°	6.3	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
82.5°	3.2	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: P584752

CATALOG NUMBER: HC845D010-HM82555935-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9	2381.9
2.5°	2369.1	2369.1	2362.8	2365.9	2365.9	2365.9	2365.9	2365.9
5°	2340.5	2343.7	2340.5	2343.7	2343.7	2340.5	2340.5	2340.5
7.5°	2311.9	2315.0	2311.9	2315.0	2315.0	2315.0	2311.9	2311.9
10°	2276.9	2276.9	2276.9	2276.9	2276.9	2273.7	2276.9	2276.9
12.5°	2229.2	2229.2	2229.2	2232.3	2232.3	2229.2	2229.2	2226.0
15°	2178.4	2171.9	2175.2	2178.4	2175.2	2175.2	2175.2	2175.2
17.5°	2108.4	2111.5	2108.4	2108.4	2108.4	2108.4	2111.5	2108.4
20°	2035.3	2035.3	2038.4	2035.3	2035.3	2035.3	2035.3	2032.1
22.5°	1952.6	1949.4	1949.4	1952.6	1952.6	1949.4	1952.6	1952.6
25°	1860.4	1863.5	1860.4	1860.4	1863.5	1863.5	1863.5	1860.4
27.5°	1761.7	1764.9	1768.1	1764.9	1764.9	1764.9	1768.1	1771.2
30°	1660.0	1666.4	1660.0	1660.0	1666.4	1663.2	1666.4	1666.4
32.5°	1551.9	1561.4	1555.0	1561.4	1561.4	1564.5	1561.4	1564.5
35°	1443.7	1453.2	1453.2	1453.2	1456.5	1459.7	1459.7	1456.5
37.5°	1342.0	1345.2	1345.2	1351.5	1354.7	1357.9	1357.9	1354.7
40°	1237.0	1243.4	1246.5	1246.5	1246.5	1252.9	1259.3	1252.9
42.5°	1135.2	1138.5	1141.7	1141.7	1148.0	1151.2	1154.3	1154.3
45°	1036.7	1043.0	1046.2	1049.4	1052.7	1059.0	1055.8	1062.2
47.5°	934.9	944.5	947.7	950.8	957.2	960.3	963.5	966.8
50°	842.7	849.0	849.0	855.5	865.0	865.0	871.3	874.5
52.5°	750.5	753.7	756.8	760.0	766.4	772.8	772.8	779.1
55°	661.5	664.6	664.6	667.8	671.0	683.7	686.9	686.9
57.5°	569.3	569.3	575.6	578.8	581.9	588.3	588.3	588.3
60°	480.2	483.4	483.4	486.6	489.7	496.1	499.2	496.1
62.5°	391.2	394.4	394.4	397.5	403.9	407.0	403.9	403.9
65°	308.5	311.7	311.7	314.8	321.2	321.2	318.0	321.2
67.5°	225.8	225.8	225.8	225.8	225.8	225.8	225.8	225.8
70°	143.1	139.9	136.8	139.9	139.9	139.9	136.8	143.1
72.5°	69.9	73.2	73.2	73.2	73.2	73.2	73.2	69.9
75°	31.8	31.8	28.6	28.6	28.6	31.8	31.8	28.6
77.5°	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
80°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
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



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)