

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: P584658

Luminaire Tested: **HC845D010-HM82555827-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584658
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-HM82555827-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4478.8 lumens
Efficiency: N/A
Efficacy: 101.8 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

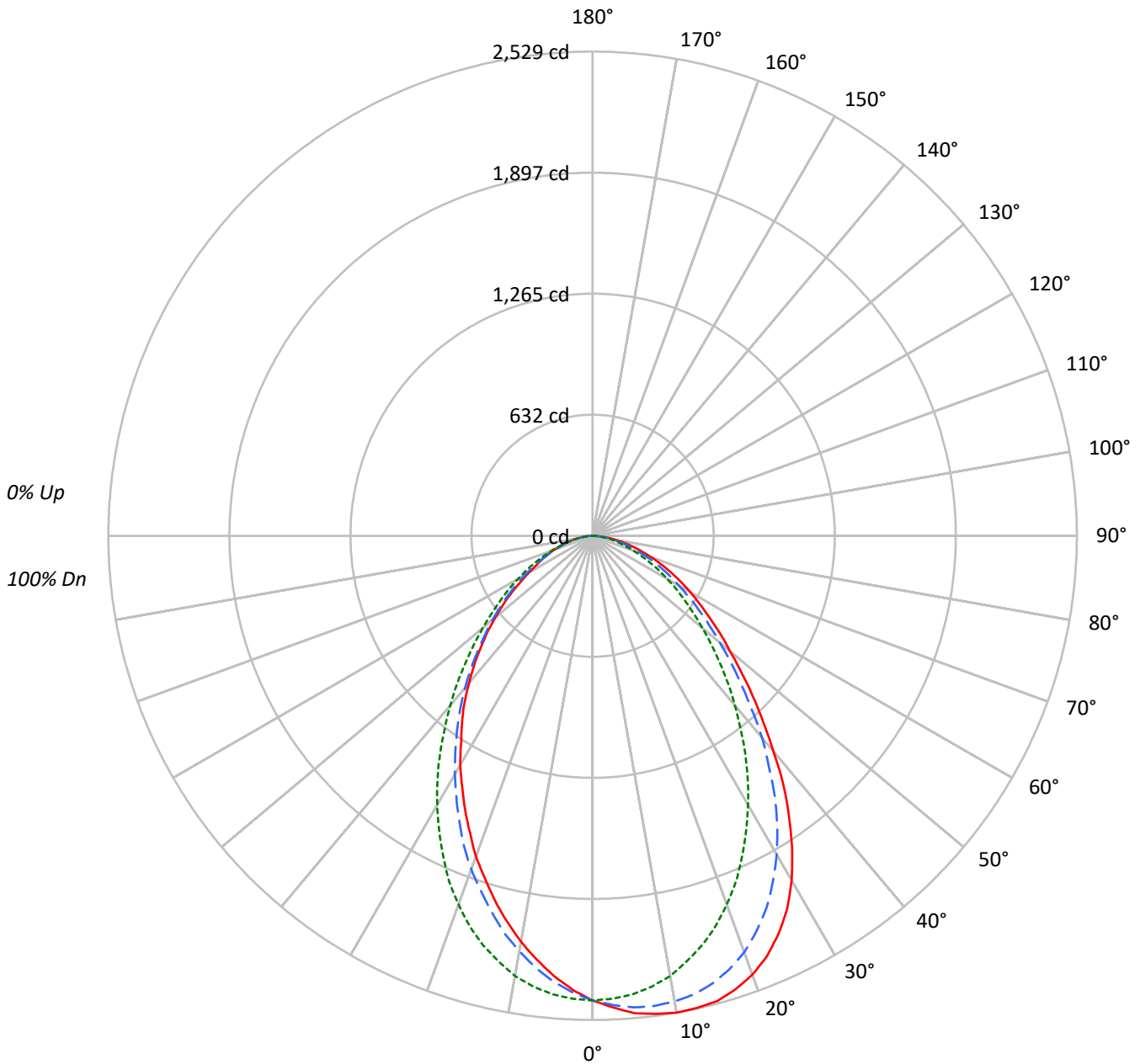
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	74834	74834	74834
5°	77466	74404	71448
10°	79185	73101	67430
15°	80311	70638	62967
20°	80069	67212	58457
25°	78089	62849	53663
30°	73980	57800	49244
35°	67308	52307	44748
40°	59117	46526	40427
45°	51550	40923	36043
50°	44859	35855	31748
55°	40009	31510	27617
60°	36350	27623	23553
65°	32681	24027	21379
70°	29094	20484	19303
75°	25508	17264	16477
80°	21647	14047	14615
85°	16311	10508	11676



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.3	5.1
10°-20°	626.3	14.0
20°-30°	869.4	19.4
30°-40°	898.8	20.1
40°-50°	752.6	16.8
50°-60°	546.3	12.2
60°-70°	344.8	7.7
70°-80°	170.8	3.8
80°-90°	42.5	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°	1723.0	38.5
0°-40°	2621.8	58.5
0°-60°	3920.8	87.5
0°-90°	4478.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4478.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2427	2427	2427	2427	2427	
5°	2503	2473	2404	2338	2308	239
15°	2516	2420	2213	2035	1972	708
25°	2295	2147	1847	1646	1577	1052
35°	1788	1656	1390	1232	1189	1113
45°	1182	1096	938	846	826	914
55°	744	678	586	537	514	672
65°	448	392	329	290	293	447
75°	214	178	145	138	138	230
85°	46	36	30	33	33	56
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°	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8
2.5°	2466.3	2466.3	2469.6	2466.3	2466.3	2466.3	2463.1	2463.1	2459.8	2459.8	2453.2
5°	2502.6	2495.9	2502.6	2495.9	2495.9	2495.9	2492.6	2486.1	2482.8	2476.2	2472.9
7.5°	2519.0	2515.7	2515.7	2512.4	2512.4	2509.2	2505.9	2502.6	2489.3	2486.1	2476.2
10°	2528.9	2525.6	2525.6	2522.3	2515.7	2515.7	2509.2	2505.9	2489.3	2482.8	2469.6
12.5°	2525.6	2525.6	2525.6	2522.3	2512.4	2509.2	2502.6	2492.6	2479.5	2466.3	2453.2
15°	2515.7	2515.7	2509.2	2505.9	2495.9	2489.3	2486.1	2469.6	2456.5	2440.0	2420.3
17.5°	2482.8	2482.8	2479.5	2472.9	2463.1	2456.5	2449.8	2433.4	2420.3	2393.9	2374.2
20°	2440.0	2436.7	2433.4	2423.5	2413.7	2410.4	2400.4	2377.4	2361.0	2341.2	2314.9
22.5°	2377.4	2374.2	2370.9	2364.3	2347.8	2341.2	2334.6	2318.2	2288.5	2268.8	2235.9
25°	2295.1	2295.1	2288.5	2278.7	2262.1	2255.6	2245.7	2229.3	2202.9	2173.2	2146.9
27.5°	2199.6	2196.3	2186.5	2179.9	2166.6	2156.8	2140.4	2120.5	2094.3	2071.2	2038.3
30°	2077.7	2077.7	2071.2	2061.3	2044.9	2038.3	2025.1	2002.1	1975.7	1946.0	1923.0
32.5°	1939.4	1939.4	1929.6	1923.0	1913.2	1896.6	1893.3	1867.1	1844.0	1821.0	1794.6
35°	1788.0	1791.3	1784.7	1771.6	1755.0	1755.0	1748.5	1725.5	1699.1	1676.1	1656.3
37.5°	1636.6	1626.7	1623.3	1616.7	1606.9	1593.8	1587.2	1577.2	1554.2	1537.8	1508.1
40°	1468.6	1471.9	1465.3	1458.7	1455.5	1445.6	1442.2	1425.8	1409.4	1389.5	1376.4
42.5°	1317.2	1317.2	1317.2	1310.6	1303.9	1294.1	1290.8	1280.9	1261.2	1248.0	1228.2
45°	1182.1	1172.3	1172.3	1169.0	1165.6	1159.0	1149.2	1142.6	1129.5	1119.5	1096.5
47.5°	1050.4	1053.7	1050.4	1047.1	1037.3	1034.0	1030.7	1017.5	1004.3	994.5	977.9
50°	935.1	941.8	935.1	935.1	928.5	925.3	918.7	908.8	899.0	882.4	866.0
52.5°	839.6	839.6	836.3	833.1	823.2	816.6	813.4	810.1	793.5	780.4	767.3
55°	744.2	747.4	747.4	737.6	734.3	727.7	724.4	714.6	707.9	688.2	678.3
57.5°	661.8	658.5	661.8	655.2	648.7	642.1	638.8	632.2	622.4	609.1	596.0
60°	589.4	582.9	582.9	579.6	573.0	569.6	563.0	553.2	543.3	530.2	520.2
62.5°	516.9	513.7	510.4	507.1	500.5	497.2	494.0	484.1	474.1	464.3	454.4
65°	447.9	447.9	444.6	438.0	434.6	431.3	428.0	421.5	408.3	401.8	391.9
67.5°	385.2	381.9	381.9	375.4	368.8	365.5	365.5	358.9	349.1	339.1	332.5
70°	322.7	326.0	322.7	319.4	312.8	312.8	306.3	303.0	289.7	286.4	276.6
72.5°	266.7	266.7	263.5	263.5	256.9	253.6	253.6	246.9	240.3	233.8	227.2
75°	214.1	214.1	214.1	210.8	207.5	200.8	200.8	197.5	191.0	184.4	177.8
77.5°	168.0	164.7	164.7	161.4	158.0	154.7	154.7	151.4	144.9	141.6	135.0
80°	121.9	118.6	118.6	118.6	111.9	115.3	111.9	108.6	105.3	102.1	98.8
82.5°	79.1	82.3	82.3	79.1	75.8	75.8	75.8	72.5	72.5	69.2	65.8
85°	46.1	46.1	46.1	46.1	42.8	42.8	42.8	39.5	39.5	39.5	36.2
87.5°	19.7	19.7	19.7	19.7	19.7	19.7	16.4	16.4	16.4	16.4	16.4
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°	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8
2.5°	2453.2	2446.5	2443.2	2440.0	2440.0	2436.7	2433.4	2426.8	2426.8	2420.3	2417.0
5°	2466.3	2456.5	2449.8	2443.2	2440.0	2433.4	2426.8	2417.0	2413.7	2403.7	2393.9
7.5°	2469.6	2453.2	2446.5	2433.4	2426.8	2420.3	2407.1	2397.1	2384.0	2374.2	2361.0
10°	2456.5	2443.2	2426.8	2410.4	2407.1	2397.1	2377.4	2364.3	2347.8	2334.6	2314.9
12.5°	2436.7	2417.0	2400.4	2380.7	2370.9	2361.0	2341.2	2321.5	2298.4	2275.4	2255.6
15°	2403.7	2380.7	2357.6	2334.6	2321.5	2311.5	2288.5	2265.4	2242.4	2212.7	2193.0
17.5°	2354.3	2328.1	2304.9	2275.4	2262.1	2252.3	2222.7	2196.3	2166.6	2137.1	2117.3
20°	2291.8	2258.8	2232.6	2199.6	2189.8	2173.2	2143.7	2114.0	2081.0	2048.2	2025.1
22.5°	2209.5	2176.6	2146.9	2114.0	2097.6	2081.0	2051.5	2015.2	1982.3	1956.0	1932.9
25°	2114.0	2084.4	2048.2	2018.5	1998.8	1979.0	1946.0	1916.4	1886.8	1847.2	1824.2
27.5°	2008.6	1972.4	1946.0	1906.6	1886.8	1873.6	1837.4	1797.9	1771.6	1735.3	1708.9
30°	1890.1	1857.2	1827.5	1788.0	1768.3	1755.0	1722.2	1686.0	1659.6	1623.3	1597.0
32.5°	1765.0	1728.8	1692.5	1666.1	1643.1	1630.0	1593.8	1570.6	1537.8	1508.1	1478.4
35°	1630.0	1593.8	1567.4	1531.1	1518.0	1504.8	1475.2	1445.6	1415.9	1389.5	1366.5
37.5°	1485.0	1458.7	1429.1	1402.8	1392.8	1379.7	1343.4	1317.2	1294.1	1267.8	1248.0
40°	1343.4	1320.4	1300.6	1274.3	1257.8	1248.0	1221.7	1198.6	1172.3	1155.8	1136.1
42.5°	1215.1	1188.7	1169.0	1149.2	1132.8	1122.9	1099.8	1083.4	1063.6	1047.1	1024.0
45°	1080.1	1066.8	1043.9	1027.3	1017.5	1004.3	987.9	968.1	951.7	938.4	922.0
47.5°	961.5	948.4	931.8	912.1	905.6	895.7	879.2	866.0	852.9	839.6	823.2
50°	852.9	836.3	823.2	810.1	803.5	793.5	777.1	770.5	760.7	747.4	737.6
52.5°	754.0	740.9	727.7	711.3	707.9	701.3	691.5	678.3	668.5	661.8	655.2
55°	665.2	652.0	642.1	629.0	625.7	619.1	605.9	599.3	592.7	586.1	579.6
57.5°	586.1	573.0	559.8	553.2	546.6	540.0	536.8	526.9	520.2	516.9	510.4
60°	513.7	500.5	490.7	480.7	477.4	474.1	467.6	461.0	454.4	447.9	444.6
62.5°	444.6	431.3	424.7	418.2	411.6	411.6	405.0	398.5	391.9	388.5	381.9
65°	381.9	375.4	365.5	355.7	352.4	352.4	342.4	339.1	335.8	329.3	322.7
67.5°	322.7	316.1	306.3	303.0	299.7	296.3	293.0	286.4	279.9	276.6	270.0
70°	270.0	263.5	256.9	253.6	250.2	246.9	240.3	237.1	230.5	227.2	223.9
72.5°	217.4	214.1	207.5	204.1	200.8	197.5	194.2	191.0	184.4	181.1	177.8
75°	174.5	171.3	164.7	161.4	158.0	158.0	154.7	148.1	144.9	144.9	141.6
77.5°	131.7	128.4	125.2	121.9	118.6	118.6	115.3	111.9	108.6	108.6	105.3
80°	95.5	92.2	88.9	88.9	88.9	85.6	82.3	82.3	79.1	79.1	75.8
82.5°	62.5	62.5	59.2	59.2	59.2	56.0	56.0	52.7	52.7	52.7	52.7
85°	36.2	36.2	36.2	33.0	33.0	33.0	33.0	33.0	33.0	29.7	33.0
87.5°	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	13.1	13.1	13.1
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°	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8
2.5°	2413.7	2410.4	2403.7	2403.7	2397.1	2397.1	2393.9	2390.6	2387.3	2384.0	2380.7
5°	2390.6	2377.4	2370.9	2367.6	2361.0	2357.6	2347.8	2341.2	2337.9	2331.3	2324.8
7.5°	2347.8	2334.6	2321.5	2318.2	2314.9	2301.7	2291.8	2282.0	2275.4	2268.8	2262.1
10°	2298.4	2285.2	2268.8	2262.1	2255.6	2239.1	2226.0	2216.0	2202.9	2189.8	2186.5
12.5°	2239.1	2219.3	2199.6	2193.0	2183.2	2166.6	2153.5	2137.1	2127.1	2110.7	2107.4
15°	2169.9	2146.9	2130.5	2114.0	2107.4	2091.0	2067.9	2054.7	2034.9	2028.4	2011.9
17.5°	2087.7	2064.6	2041.6	2034.9	2025.1	2002.1	1979.0	1962.5	1942.7	1932.9	1923.0
20°	2002.1	1972.4	1949.4	1942.7	1929.6	1909.9	1886.8	1870.3	1853.8	1834.1	1824.2
22.5°	1903.3	1870.3	1850.5	1834.1	1830.8	1807.7	1781.4	1768.3	1755.0	1738.6	1725.5
25°	1794.6	1765.0	1741.9	1728.8	1722.2	1702.4	1682.7	1666.1	1646.4	1636.6	1620.0
27.5°	1682.7	1662.8	1633.3	1620.0	1610.2	1593.8	1570.6	1560.8	1541.1	1527.8	1518.0
30°	1573.9	1544.4	1527.8	1511.4	1501.6	1485.0	1465.3	1455.5	1438.9	1425.8	1415.9
32.5°	1455.5	1435.6	1412.6	1406.1	1392.8	1376.4	1363.3	1346.7	1333.6	1320.4	1317.2
35°	1346.7	1320.4	1297.3	1290.8	1280.9	1264.5	1257.8	1248.0	1231.5	1228.2	1215.1
37.5°	1228.2	1215.1	1188.7	1178.9	1175.6	1162.3	1149.2	1142.6	1132.8	1122.9	1119.5
40°	1116.2	1099.8	1086.7	1076.8	1070.1	1060.3	1047.1	1043.9	1037.3	1024.0	1020.7
42.5°	1010.9	994.5	981.2	977.9	968.1	958.2	951.7	941.8	938.4	935.1	928.5
45°	908.8	899.0	885.7	882.4	879.2	866.0	859.5	852.9	846.2	842.9	836.3
47.5°	816.6	806.8	796.8	793.5	787.0	783.7	773.8	770.5	760.7	757.4	754.0
50°	727.7	721.2	714.6	711.3	704.6	701.3	694.8	688.2	681.6	678.3	675.1
52.5°	648.7	642.1	635.5	632.2	629.0	622.4	615.7	609.1	605.9	602.6	599.3
55°	573.0	566.3	563.0	559.8	556.5	553.2	543.3	540.0	536.8	533.5	526.9
57.5°	503.8	497.2	490.7	490.7	487.4	484.1	477.4	470.8	470.8	464.3	457.7
60°	441.3	434.6	428.0	424.7	421.5	414.9	411.6	408.3	405.0	401.8	395.2
62.5°	375.4	372.1	365.5	365.5	358.9	355.7	352.4	349.1	345.8	339.1	335.8
65°	319.4	316.1	309.6	306.3	306.3	303.0	296.3	293.0	289.7	289.7	286.4
67.5°	266.7	263.5	256.9	253.6	253.6	250.2	246.9	246.9	243.6	240.3	243.6
70°	220.6	214.1	214.1	210.8	210.8	207.5	204.1	204.1	204.1	207.5	207.5
72.5°	174.5	171.3	168.0	168.0	168.0	168.0	164.7	164.7	168.0	171.3	171.3
75°	138.3	135.0	135.0	135.0	131.7	131.7	135.0	135.0	138.3	138.3	138.3
77.5°	102.1	102.1	102.1	102.1	102.1	102.1	105.3	105.3	108.6	108.6	108.6
80°	75.8	75.8	75.8	75.8	75.8	79.1	79.1	79.1	79.1	79.1	82.3
82.5°	52.7	52.7	52.7	52.7	52.7	52.7	52.7	56.0	56.0	56.0	56.0
85°	29.7	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
87.5°	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
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: P584658

CATALOG NUMBER: HC845D010-HM82555827-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8	2426.8
2.5°	2377.4	2377.4	2377.4	2380.7	2374.2	2374.2	2374.2	2374.2
5°	2321.5	2318.2	2314.9	2318.2	2311.5	2311.5	2308.2	2308.2
7.5°	2252.3	2249.0	2245.7	2245.7	2239.1	2239.1	2235.9	2232.6
10°	2176.6	2169.9	2173.2	2166.6	2163.4	2160.1	2156.8	2153.5
12.5°	2094.3	2087.7	2084.4	2077.7	2071.2	2067.9	2071.2	2064.6
15°	2005.4	1995.5	1992.1	1985.5	1979.0	1975.7	1975.7	1972.4
17.5°	1906.6	1899.9	1896.6	1890.1	1886.8	1880.2	1876.9	1873.6
20°	1814.4	1797.9	1801.1	1794.6	1791.3	1778.2	1778.2	1781.4
22.5°	1712.2	1702.4	1695.8	1689.2	1686.0	1679.4	1679.4	1676.1
25°	1610.2	1600.3	1597.0	1590.5	1587.2	1580.6	1577.2	1577.2
27.5°	1511.4	1498.3	1498.3	1491.7	1485.0	1481.7	1478.4	1475.2
30°	1406.1	1396.1	1392.8	1392.8	1389.5	1389.5	1379.7	1383.0
32.5°	1307.3	1300.6	1297.3	1290.8	1290.8	1287.5	1287.5	1277.6
35°	1208.4	1198.6	1201.9	1195.3	1192.0	1188.7	1192.0	1188.7
37.5°	1112.9	1106.4	1106.4	1099.8	1099.8	1096.5	1093.2	1099.8
40°	1017.5	1014.2	1010.9	1007.6	1010.9	1007.6	1001.0	1004.3
42.5°	922.0	922.0	918.7	918.7	915.4	915.4	915.4	915.4
45°	836.3	833.1	833.1	829.8	829.8	829.8	829.8	826.5
47.5°	750.7	747.4	747.4	747.4	744.2	744.2	740.9	744.2
50°	668.5	668.5	665.2	665.2	668.5	665.2	661.8	661.8
52.5°	592.7	592.7	589.4	589.4	586.1	582.9	586.1	586.1
55°	523.5	520.2	516.9	516.9	513.7	510.4	510.4	513.7
57.5°	457.7	454.4	451.1	451.1	444.6	441.3	441.3	441.3
60°	395.2	388.5	388.5	385.2	385.2	381.9	381.9	381.9
62.5°	335.8	332.5	332.5	332.5	332.5	329.3	329.3	329.3
65°	286.4	286.4	286.4	289.7	289.7	293.0	293.0	293.0
67.5°	246.9	250.2	250.2	250.2	253.6	253.6	253.6	250.2
70°	210.8	210.8	210.8	214.1	214.1	214.1	214.1	214.1
72.5°	174.5	174.5	174.5	174.5	174.5	174.5	174.5	174.5
75°	138.3	141.6	141.6	141.6	138.3	141.6	141.6	138.3
77.5°	108.6	108.6	108.6	108.6	108.6	108.6	108.6	108.6
80°	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
82.5°	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
85°	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
87.5°	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
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)