

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: P584659

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584659
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC845D010-HM82555827-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4663.2 lumens
Efficiency: N/A
Efficacy: 106.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

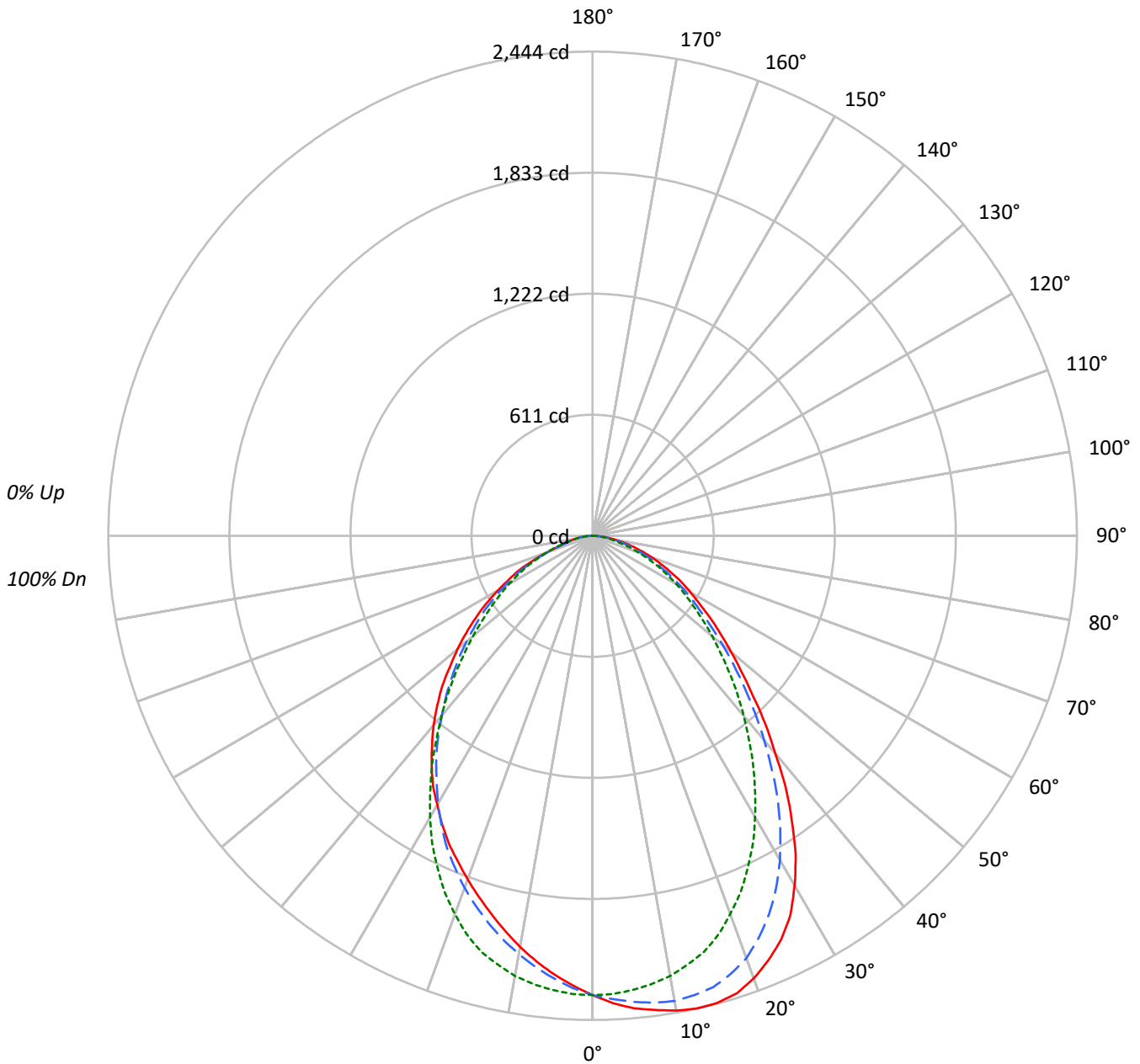
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87																			
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75																			
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65																			
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57																			
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50																			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45																			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40																			
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37																			
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33																			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	71497	71497	71497
5°	74113	71259	68814
10°	76210	70640	65999
15°	77908	69393	63082
20°	78032	66681	60521
25°	76537	62975	58382
30°	72591	58399	55821
35°	65956	53187	53312
40°	57668	47729	50245
45°	49980	42515	46819
50°	43761	37759	42662
55°	38956	33467	38601
60°	35135	30059	33920
65°	31718	26428	29551
70°	28499	22269	21972
75°	25115	17645	16477
80°	21061	14615	15787
85°	16311	12808	13975



TEST NUMBER: P584659

CATALOG NUMBER: HC845D010-HM82555827-81WWWB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.7	4.7
10°-20°	616.1	13.2
20°-30°	880.5	18.9
30°-40°	935.5	20.1
40°-50°	805.5	17.3
50°-60°	602.2	12.9
60°-70°	384.1	8.2
70°-80°	174.8	3.7
80°-90°	45.8	1.0
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°	1715.2	36.8
0°-40°	2650.8	56.8
0°-60°	4058.4	87.0
0°-90°	4663.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4663.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2319	2319	2319	2319	2319	
5°	2394	2361	2302	2243	2223	229
15°	2440	2358	2174	2025	1976	687
25°	2250	2108	1851	1739	1716	1030
35°	1752	1630	1413	1377	1416	1091
45°	1146	1084	975	1001	1074	891
55°	725	665	622	675	718	652
65°	435	385	362	379	405	434
75°	211	181	148	135	138	224
85°	46	40	36	40	40	56
90°	0	0	0	0	0	



TEST NUMBER: P584659

CATALOG NUMBER: HC845D010-HM82555827-81WWWB

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6
2.5°	2361.4	2354.8	2358.1	2354.8	2358.1	2358.1	2351.5	2351.5	2351.5	2351.5	2341.7
5°	2394.3	2391.0	2391.0	2387.8	2384.5	2387.8	2384.5	2381.2	2374.5	2371.2	2361.4
7.5°	2414.0	2414.0	2414.0	2414.0	2410.7	2407.5	2404.2	2397.6	2391.0	2384.5	2377.9
10°	2433.9	2437.1	2433.9	2430.6	2427.3	2420.7	2417.3	2410.7	2400.9	2391.0	2384.5
12.5°	2443.7	2443.7	2440.4	2440.4	2433.9	2430.6	2420.7	2410.7	2400.9	2391.0	2374.5
15°	2440.4	2440.4	2437.1	2433.9	2424.0	2420.7	2414.0	2404.2	2387.8	2374.5	2358.1
17.5°	2420.7	2417.3	2410.7	2410.7	2397.6	2394.3	2387.8	2374.5	2358.1	2338.4	2318.6
20°	2377.9	2377.9	2374.5	2371.2	2358.1	2348.2	2341.7	2325.1	2312.0	2288.9	2269.2
22.5°	2318.6	2325.1	2318.6	2312.0	2295.6	2292.3	2282.3	2262.6	2242.8	2216.5	2193.4
25°	2249.5	2246.1	2242.8	2236.2	2223.1	2216.5	2203.2	2183.5	2163.8	2134.2	2107.8
27.5°	2160.4	2147.3	2147.3	2134.2	2124.3	2114.3	2107.8	2088.1	2061.7	2038.7	2005.7
30°	2038.7	2042.0	2025.4	2022.1	2005.7	1999.1	1985.9	1966.2	1943.1	1916.8	1890.4
32.5°	1906.9	1897.0	1897.0	1883.8	1870.7	1860.7	1857.4	1834.5	1814.6	1788.4	1762.0
35°	1752.1	1752.1	1742.3	1739.0	1725.7	1719.1	1709.3	1696.2	1673.0	1650.1	1630.2
37.5°	1600.6	1594.0	1590.7	1584.1	1574.3	1564.4	1564.4	1541.3	1538.0	1511.6	1485.4
40°	1432.6	1439.3	1432.6	1422.7	1419.4	1412.9	1409.6	1396.5	1386.5	1363.5	1347.0
42.5°	1291.0	1284.4	1284.4	1281.2	1268.0	1268.0	1261.3	1254.8	1238.3	1231.8	1211.9
45°	1146.1	1152.7	1142.9	1146.1	1132.9	1132.9	1132.9	1119.7	1106.6	1096.8	1083.5
47.5°	1021.0	1024.3	1024.3	1014.4	1011.1	1011.1	1004.4	997.9	988.0	974.9	965.0
50°	912.2	915.5	909.0	905.7	899.1	895.8	895.8	882.7	876.0	862.9	856.3
52.5°	813.5	813.5	810.2	810.2	800.3	800.3	793.8	783.8	777.2	770.7	754.2
55°	724.6	724.6	721.3	718.0	718.0	708.1	704.7	694.9	688.3	675.2	665.3
57.5°	638.9	642.2	638.9	635.6	632.4	629.1	622.5	612.5	606.0	596.1	589.5
60°	569.7	569.7	566.4	563.2	556.6	553.3	550.0	543.5	533.5	526.9	517.1
62.5°	503.9	500.6	497.4	494.1	487.4	487.4	480.8	474.2	464.4	457.8	451.3
65°	434.7	434.7	431.4	431.4	428.1	421.6	418.3	415.0	401.8	398.5	385.3
67.5°	372.2	375.5	368.9	368.9	362.2	362.2	358.9	349.1	345.8	339.2	332.7
70°	316.1	316.1	316.1	312.8	306.3	303.0	299.7	293.1	289.8	283.3	276.6
72.5°	260.2	260.2	256.9	256.9	253.6	250.3	247.0	240.5	240.5	233.8	227.2
75°	210.8	210.8	207.5	204.2	200.9	200.9	197.7	194.4	187.7	184.4	181.1
77.5°	161.4	161.4	161.4	158.1	154.8	154.8	154.8	148.1	141.6	141.6	138.3
80°	118.6	118.6	115.3	115.3	112.0	112.0	112.0	108.7	105.3	102.1	98.8
82.5°	79.1	79.1	79.1	79.1	75.8	75.8	75.8	72.5	69.2	69.2	69.2
85°	46.1	46.1	46.1	46.1	42.8	42.8	42.8	42.8	42.8	39.5	39.5
87.5°	19.7	16.4	19.7	16.4	19.7	16.4	19.7	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



TEST NUMBER: P584659

CATALOG NUMBER: HC845D010-HM82555827-81WWWB

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6
2.5°	2344.9	2341.7	2338.4	2335.1	2335.1	2331.7	2325.1	2321.8	2318.6	2315.3	2315.3
5°	2358.1	2354.8	2348.2	2341.7	2338.4	2331.7	2325.1	2318.6	2312.0	2302.1	2298.8
7.5°	2367.9	2358.1	2351.5	2338.4	2335.1	2328.4	2318.6	2308.7	2295.6	2282.3	2272.5
10°	2367.9	2354.8	2344.9	2328.4	2321.8	2315.3	2302.1	2285.6	2269.2	2256.0	2239.5
12.5°	2361.4	2344.9	2328.4	2312.0	2302.1	2292.3	2272.5	2256.0	2236.2	2216.5	2203.2
15°	2338.4	2318.6	2298.8	2279.0	2269.2	2256.0	2236.2	2213.2	2193.4	2173.7	2150.6
17.5°	2295.6	2275.7	2252.7	2229.6	2216.5	2206.6	2177.0	2160.4	2130.9	2111.0	2091.3
20°	2239.5	2216.5	2186.8	2163.8	2147.3	2137.4	2114.3	2084.8	2061.7	2032.0	2012.3
22.5°	2167.1	2137.4	2107.8	2084.8	2068.2	2055.1	2025.4	1995.9	1976.0	1949.8	1926.7
25°	2081.5	2051.8	2022.1	1989.2	1972.8	1959.6	1933.2	1906.9	1880.6	1850.9	1831.2
27.5°	1979.3	1946.4	1920.1	1890.4	1874.0	1854.2	1824.6	1798.2	1771.8	1752.1	1725.7
30°	1867.4	1831.2	1804.8	1775.1	1758.7	1742.3	1712.6	1686.2	1663.2	1640.1	1627.0
32.5°	1732.3	1706.0	1679.6	1650.1	1636.8	1627.0	1597.3	1571.0	1544.6	1524.9	1514.9
35°	1603.8	1574.3	1551.2	1524.9	1508.4	1498.5	1472.1	1449.1	1436.0	1412.9	1399.7
37.5°	1468.8	1445.8	1419.4	1393.2	1383.2	1373.3	1353.6	1330.5	1310.8	1294.3	1287.7
40°	1327.2	1307.5	1284.4	1268.0	1258.0	1248.2	1231.8	1215.2	1202.1	1185.7	1179.1
42.5°	1192.2	1179.1	1159.3	1139.6	1129.6	1126.3	1106.6	1093.5	1086.8	1080.2	1073.6
45°	1070.4	1050.7	1037.4	1024.3	1014.4	1007.8	997.9	988.0	981.4	974.9	968.3
47.5°	951.8	935.4	922.2	912.2	902.4	899.1	892.5	882.7	876.0	876.0	876.0
50°	843.2	829.9	816.8	810.2	806.9	800.3	793.8	790.4	787.1	787.1	787.1
52.5°	747.6	734.4	724.6	718.0	718.0	711.4	704.7	701.5	701.5	701.5	701.5
55°	658.6	648.8	642.2	635.6	629.1	625.8	625.8	625.8	622.5	622.5	625.8
57.5°	579.7	573.0	563.2	556.6	553.3	553.3	550.0	546.7	550.0	553.3	556.6
60°	507.2	500.6	497.4	487.4	487.4	487.4	484.1	484.1	484.1	487.4	490.7
62.5°	441.3	438.0	431.4	428.1	424.9	424.9	421.6	421.6	421.6	421.6	424.9
65°	382.0	375.5	368.9	368.9	368.9	365.6	365.6	358.9	362.2	362.2	358.9
67.5°	326.1	319.4	316.1	312.8	309.6	309.6	306.3	303.0	299.7	299.7	299.7
70°	273.3	266.7	266.7	260.2	260.2	256.9	253.6	253.6	250.3	247.0	243.7
72.5°	220.6	217.4	214.1	210.8	210.8	210.8	207.5	204.2	200.9	197.7	191.0
75°	174.5	174.5	168.0	164.7	164.7	161.4	158.1	154.8	151.6	148.1	144.9
77.5°	135.0	131.7	125.2	121.9	121.9	121.9	118.6	115.3	112.0	108.7	105.3
80°	98.8	95.5	92.2	88.9	88.9	88.9	85.6	85.6	82.3	82.3	82.3
82.5°	65.9	65.9	62.5	62.5	62.5	62.5	59.2	59.2	59.2	59.2	59.2
85°	39.5	39.5	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2	36.2
87.5°	16.4	16.4	16.4	16.4	16.4	16.4	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



TEST NUMBER: P584659

CATALOG NUMBER: HC845D010-HM82555827-81WWWB

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6
2.5°	2308.7	2308.7	2302.1	2298.8	2295.6	2298.8	2292.3	2288.9	2285.6	2285.6	2282.3
5°	2288.9	2285.6	2272.5	2269.2	2265.9	2262.6	2256.0	2249.5	2242.8	2239.5	2236.2
7.5°	2262.6	2252.7	2239.5	2236.2	2232.9	2223.1	2213.2	2206.6	2196.7	2193.4	2186.8
10°	2226.4	2213.2	2203.2	2193.4	2186.8	2177.0	2167.1	2157.1	2144.0	2140.7	2130.9
12.5°	2183.5	2167.1	2147.3	2144.0	2134.2	2121.0	2107.8	2097.9	2088.1	2081.5	2071.5
15°	2130.9	2114.3	2094.6	2084.8	2074.8	2064.9	2048.5	2035.4	2025.4	2015.6	2005.7
17.5°	2068.2	2048.5	2032.0	2022.1	2015.6	1999.1	1985.9	1969.5	1959.6	1949.8	1939.8
20°	1992.6	1976.0	1953.0	1943.1	1939.8	1926.7	1910.2	1903.5	1890.4	1880.6	1874.0
22.5°	1906.9	1890.4	1870.7	1864.1	1850.9	1844.3	1827.9	1821.3	1814.6	1804.8	1801.5
25°	1811.3	1794.9	1778.5	1775.1	1765.2	1758.7	1748.8	1739.0	1739.0	1729.0	1729.0
27.5°	1712.6	1696.2	1682.9	1676.3	1673.0	1666.5	1656.6	1653.3	1650.1	1646.7	1646.7
30°	1607.2	1587.4	1580.9	1577.6	1574.3	1567.7	1564.4	1557.7	1561.0	1564.4	1561.0
32.5°	1495.2	1488.7	1475.4	1468.8	1472.1	1468.8	1462.3	1468.8	1465.5	1472.1	1475.4
35°	1386.5	1379.9	1373.3	1373.3	1366.8	1366.8	1366.8	1370.1	1376.6	1379.9	1386.5
37.5°	1281.2	1271.3	1268.0	1264.7	1268.0	1268.0	1268.0	1274.6	1281.2	1287.7	1297.6
40°	1169.1	1162.6	1162.6	1162.6	1162.6	1172.4	1169.1	1175.7	1182.4	1192.2	1202.1
42.5°	1063.8	1063.8	1067.1	1067.1	1067.1	1067.1	1073.6	1083.5	1093.5	1103.3	1113.2
45°	965.0	965.0	965.0	971.6	971.6	974.9	988.0	994.6	1001.2	1011.1	1021.0
47.5°	872.7	872.7	876.0	879.4	882.7	889.3	895.8	905.7	915.5	922.2	932.1
50°	787.1	790.4	797.1	803.6	803.6	806.9	816.8	823.3	829.9	839.9	843.2
52.5°	704.7	711.4	718.0	721.3	724.6	731.1	734.4	744.3	747.6	757.5	760.8
55°	629.1	632.4	642.2	645.5	645.5	652.1	658.6	665.3	675.2	675.2	681.7
57.5°	559.9	563.2	569.7	573.0	569.7	579.7	583.0	589.5	592.8	599.4	602.7
60°	490.7	497.4	500.6	500.6	503.9	507.2	513.8	513.8	520.3	526.9	526.9
62.5°	424.9	428.1	431.4	434.7	438.0	434.7	444.6	444.6	451.3	454.5	461.1
65°	362.2	365.6	365.6	368.9	368.9	372.2	372.2	375.5	378.8	385.3	388.6
67.5°	299.7	299.7	299.7	303.0	299.7	303.0	303.0	306.3	306.3	312.8	316.1
70°	243.7	240.5	237.2	237.2	237.2	237.2	233.8	237.2	237.2	240.5	240.5
72.5°	187.7	184.4	181.1	177.8	177.8	174.5	171.3	174.5	174.5	177.8	177.8
75°	141.6	135.0	135.0	135.0	131.7	131.7	131.7	135.0	135.0	135.0	138.3
77.5°	105.3	105.3	102.1	102.1	102.1	105.3	105.3	108.7	108.7	108.7	108.7
80°	79.1	82.3	82.3	82.3	82.3	85.6	85.6	85.6	85.6	88.9	88.9
82.5°	59.2	59.2	59.2	59.2	62.5	62.5	62.5	62.5	62.5	62.5	62.5
85°	36.2	39.5	39.5	36.2	39.5	39.5	39.5	39.5	39.5	39.5	39.5
87.5°	16.4	16.4	16.4	16.4	16.4	16.4	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



TEST NUMBER: P584659

CATALOG NUMBER: HC845D010-HM82555827-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6	2318.6
2.5°	2279.0	2279.0	2279.0	2279.0	2275.7	2275.7	2275.7	2272.5
5°	2229.6	2229.6	2229.6	2223.1	2226.4	2226.4	2219.8	2223.1
7.5°	2180.3	2177.0	2173.7	2173.7	2170.4	2167.1	2163.8	2167.1
10°	2124.3	2114.3	2114.3	2111.0	2111.0	2104.5	2104.5	2107.8
12.5°	2061.7	2055.1	2055.1	2051.8	2048.5	2045.2	2042.0	2042.0
15°	1999.1	1992.6	1989.2	1985.9	1982.6	1976.0	1979.3	1976.0
17.5°	1936.5	1926.7	1926.7	1923.4	1920.1	1913.5	1913.5	1910.2
20°	1864.1	1860.7	1854.2	1857.4	1854.2	1847.6	1844.3	1844.3
22.5°	1791.6	1791.6	1788.4	1788.4	1785.1	1781.8	1778.5	1778.5
25°	1722.4	1719.1	1722.4	1722.4	1712.6	1712.6	1712.6	1715.9
27.5°	1643.4	1646.7	1643.4	1643.4	1643.4	1643.4	1646.7	1643.4
30°	1564.4	1564.4	1564.4	1567.7	1574.3	1571.0	1571.0	1567.7
32.5°	1478.8	1482.1	1482.1	1485.4	1488.7	1495.2	1495.2	1498.5
35°	1393.2	1399.7	1403.0	1399.7	1409.6	1409.6	1416.2	1416.2
37.5°	1304.1	1307.5	1314.1	1317.4	1324.0	1327.2	1330.5	1330.5
40°	1208.7	1221.9	1225.2	1228.5	1238.3	1238.3	1241.6	1248.2
42.5°	1119.7	1132.9	1136.3	1139.6	1146.1	1156.0	1152.7	1159.3
45°	1034.1	1044.0	1047.3	1050.7	1060.5	1063.8	1063.8	1073.6
47.5°	941.9	948.5	951.8	958.3	965.0	971.6	978.2	974.9
50°	849.7	859.6	866.1	869.4	879.4	882.7	886.0	889.3
52.5°	767.4	773.9	777.2	780.5	790.4	793.8	797.1	803.6
55°	688.3	691.6	698.2	694.9	704.7	708.1	711.4	718.0
57.5°	609.3	612.5	615.8	615.8	622.5	629.1	632.4	635.6
60°	533.5	540.2	543.5	543.5	543.5	550.0	550.0	550.0
62.5°	464.4	464.4	467.7	467.7	474.2	474.2	474.2	474.2
65°	391.9	395.2	398.5	398.5	405.0	401.8	408.4	405.0
67.5°	316.1	316.1	322.8	322.8	319.4	322.8	322.8	322.8
70°	240.5	240.5	243.7	243.7	243.7	243.7	243.7	243.7
72.5°	177.8	177.8	177.8	181.1	177.8	177.8	181.1	177.8
75°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3
77.5°	108.7	108.7	112.0	112.0	112.0	112.0	112.0	112.0
80°	88.9	88.9	88.9	88.9	92.2	88.9	88.9	88.9
82.5°	65.9	62.5	65.9	62.5	65.9	65.9	65.9	65.9
85°	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5
87.5°	16.4	16.4	16.4	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



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













(END OF REPORT)