

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: P584878

Luminaire Tested: **HC850D010-HM82555930-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584878
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: HC850D010-HM82555930-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4149.8 lumens
Efficiency: N/A
Efficacy: 86.5 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

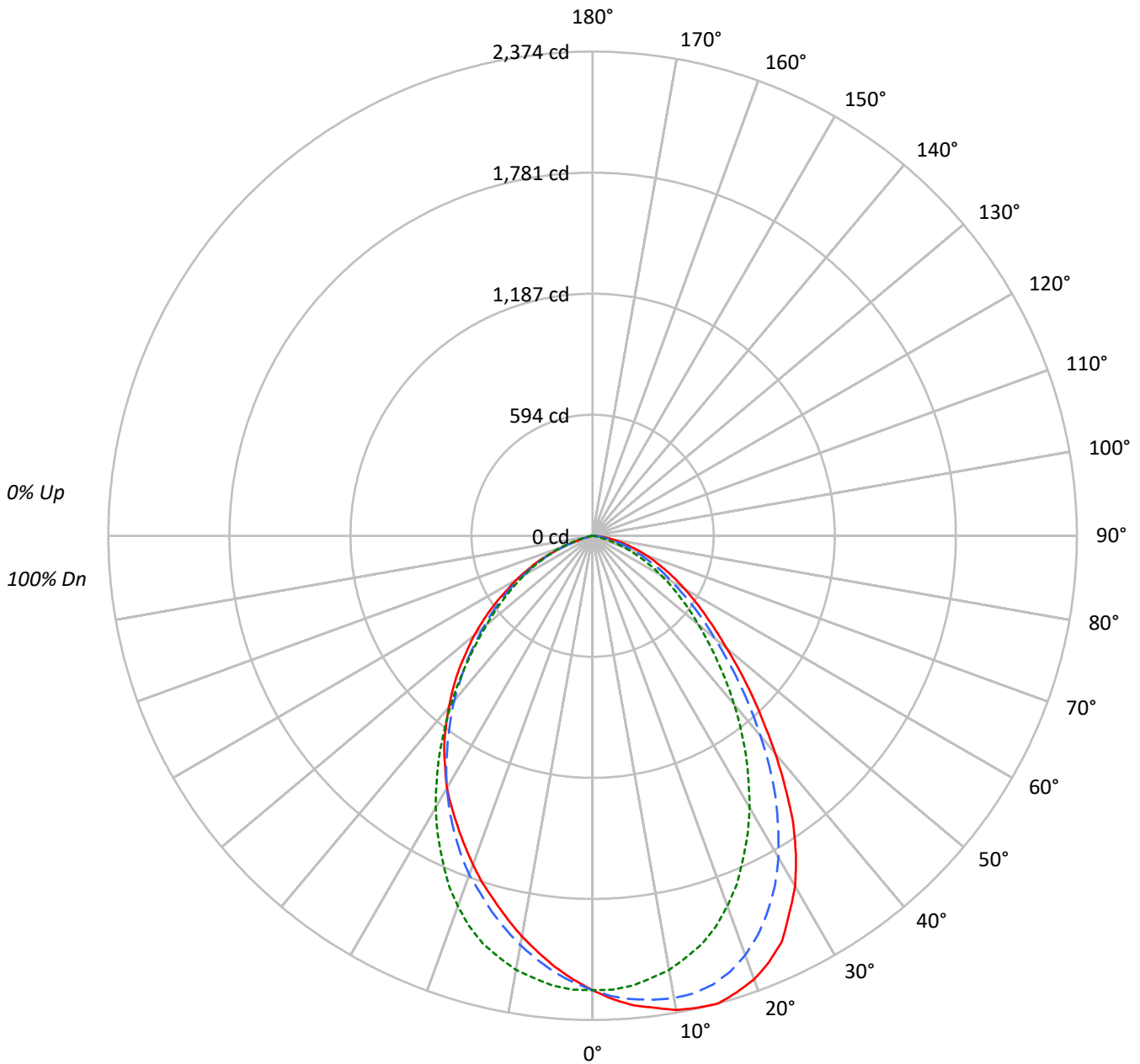
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	68700	68700	68700
5°	71538	68551	65663
10°	73928	67672	62461
15°	75801	66128	59216
20°	75951	63383	56278
25°	74669	59372	53363
30°	70669	54781	50868
35°	64432	49265	47763
40°	56033	43434	44102
45°	48070	37613	40369
50°	41055	32430	36267
55°	35988	27929	31510
60°	32039	23830	26495
65°	28427	19438	21138
70°	25218	14407	12000
75°	21029	7530	3562
80°	16568	2362	586
85°	11782	1168	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.9	5.1
10°-20°	588.4	14.2
20°-30°	832.8	20.1
30°-40°	871.3	21.0
40°-50°	726.7	17.5
50°-60°	515.3	12.4
60°-70°	296.8	7.2
70°-80°	95.5	2.3
80°-90°	13.1	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°	1631.1	39.3
0°-40°	2502.4	60.3
0°-60°	3744.4	90.2
0°-90°	4149.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4149.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2228	2228	2228	2228	2228	
5°	2311	2281	2215	2148	2121	222
15°	2374	2278	2071	1908	1855	668
25°	2195	2031	1745	1605	1568	1001
35°	1712	1562	1309	1239	1269	1061
45°	1102	1012	862	872	926	854
55°	669	600	520	546	586	605
65°	390	326	266	266	290	389
75°	176	130	63	30	30	191
85°	33	17	3	0	0	42
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°	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9
2.5°	2274.5	2271.1	2267.9	2271.1	2267.9	2271.1	2267.9	2267.9	2264.5	2261.2	2261.2
5°	2311.1	2307.8	2307.8	2307.8	2304.4	2301.2	2301.2	2297.8	2291.1	2287.8	2281.2
7.5°	2334.4	2337.8	2337.8	2337.8	2331.1	2331.1	2324.4	2317.8	2311.1	2304.4	2294.5
10°	2361.0	2361.0	2357.8	2354.4	2347.7	2344.4	2341.0	2334.4	2324.4	2311.1	2301.2
12.5°	2371.1	2371.1	2367.7	2361.0	2357.8	2354.4	2351.1	2341.0	2327.8	2311.1	2297.8
15°	2374.4	2367.7	2364.4	2361.0	2354.4	2344.4	2344.4	2331.1	2314.5	2294.5	2277.8
17.5°	2347.7	2351.1	2344.4	2337.8	2327.8	2321.2	2311.1	2301.2	2281.2	2257.8	2241.2
20°	2314.5	2311.1	2307.8	2297.8	2284.5	2281.2	2271.1	2254.5	2237.8	2211.2	2187.9
22.5°	2261.2	2257.8	2251.1	2244.5	2231.2	2224.5	2214.6	2194.6	2171.3	2144.6	2118.0
25°	2194.6	2187.9	2178.0	2164.6	2154.6	2147.9	2134.6	2114.6	2088.0	2058.0	2031.4
27.5°	2088.0	2098.0	2091.3	2071.4	2061.4	2048.1	2044.7	2018.0	1994.8	1964.7	1934.8
30°	1984.7	1984.7	1974.8	1964.7	1948.1	1938.2	1924.9	1904.9	1881.5	1844.9	1821.5
32.5°	1854.9	1851.6	1838.3	1834.9	1821.5	1801.7	1798.3	1771.6	1748.4	1721.7	1691.7
35°	1711.6	1705.0	1691.7	1681.7	1675.1	1665.1	1655.1	1631.8	1608.4	1581.8	1561.8
37.5°	1548.6	1548.6	1545.2	1528.6	1521.9	1515.3	1505.2	1481.9	1468.6	1442.0	1422.0
40°	1392.0	1388.7	1378.7	1375.3	1368.7	1358.7	1352.1	1338.7	1318.7	1298.8	1278.8
42.5°	1238.8	1242.2	1228.9	1232.1	1218.8	1212.1	1208.9	1188.9	1178.8	1158.9	1142.2
45°	1102.3	1099.0	1092.3	1088.9	1082.3	1075.6	1068.9	1059.0	1042.3	1022.4	1012.4
47.5°	975.8	965.7	965.7	962.4	959.0	945.7	942.4	932.4	922.5	902.5	889.1
50°	855.8	855.8	855.8	852.6	842.5	839.2	832.6	822.5	812.6	799.2	779.3
52.5°	759.3	759.3	759.3	756.0	742.7	739.3	736.0	722.7	709.3	699.3	686.0
55°	669.4	672.6	669.4	662.7	652.7	652.7	642.7	636.1	622.7	612.8	599.5
57.5°	592.8	592.8	586.1	582.7	576.1	572.8	566.1	559.5	542.8	532.8	516.2
60°	519.5	516.2	516.2	509.6	502.9	496.2	492.9	482.9	476.3	459.5	446.2
62.5°	452.9	452.9	446.2	446.2	432.9	432.9	429.6	419.6	409.6	392.9	386.4
65°	389.6	389.6	386.4	383.0	373.0	369.6	366.4	356.3	346.4	336.3	326.4
67.5°	333.0	333.0	326.4	323.0	316.3	313.1	306.4	299.7	289.7	279.7	269.7
70°	279.7	276.4	273.1	269.7	263.0	259.8	253.1	246.4	236.5	229.8	219.8
72.5°	226.4	226.4	223.2	216.5	213.1	209.8	206.4	199.8	189.8	179.8	173.1
75°	176.5	176.5	176.5	169.9	163.2	159.8	159.8	153.1	146.5	136.5	129.9
77.5°	136.5	133.1	129.9	129.9	123.2	119.9	116.5	113.3	103.2	99.9	93.3
80°	93.3	96.6	93.3	89.9	86.6	83.2	83.2	76.6	73.3	66.6	60.0
82.5°	63.2	60.0	60.0	56.6	56.6	53.3	53.3	46.6	43.3	40.0	36.6
85°	33.3	33.3	29.9	29.9	29.9	26.7	26.7	23.3	23.3	20.0	16.6
87.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	6.7	6.7	6.7
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9
2.5°	2257.8	2251.1	2247.9	2247.9	2244.5	2241.2	2237.8	2234.5	2227.9	2227.9	2221.2
5°	2274.5	2267.9	2264.5	2254.5	2247.9	2247.9	2234.5	2231.2	2221.2	2214.6	2207.9
7.5°	2287.8	2274.5	2264.5	2254.5	2247.9	2241.2	2227.9	2214.6	2201.2	2187.9	2181.2
10°	2287.8	2274.5	2257.8	2241.2	2234.5	2227.9	2211.2	2191.3	2174.6	2161.2	2144.6
12.5°	2281.2	2261.2	2241.2	2227.9	2214.6	2204.5	2184.6	2164.6	2144.6	2118.0	2104.7
15°	2261.2	2234.5	2214.6	2191.3	2181.2	2164.6	2147.9	2118.0	2094.6	2071.4	2054.8
17.5°	2221.2	2187.9	2164.6	2141.3	2124.7	2114.6	2088.0	2061.4	2034.8	2008.1	1988.1
20°	2161.2	2131.3	2104.7	2074.6	2061.4	2048.1	2014.8	1988.1	1961.5	1931.5	1911.5
22.5°	2088.0	2058.0	2021.4	1998.1	1978.1	1961.5	1931.5	1901.5	1874.8	1848.2	1821.5
25°	1998.1	1968.1	1934.8	1898.2	1884.9	1868.2	1834.9	1804.9	1775.0	1745.0	1721.7
27.5°	1901.5	1861.5	1834.9	1795.0	1781.7	1765.0	1728.4	1695.0	1668.4	1645.1	1618.5
30°	1784.9	1755.0	1718.3	1681.7	1668.4	1651.8	1621.8	1591.8	1565.2	1538.5	1511.9
32.5°	1658.5	1628.4	1591.8	1565.2	1545.2	1531.9	1501.9	1475.3	1448.6	1422.0	1398.7
35°	1525.2	1491.9	1465.2	1438.6	1422.0	1405.4	1375.3	1352.1	1332.1	1308.7	1285.4
37.5°	1388.7	1365.4	1338.7	1308.7	1292.1	1278.8	1255.5	1228.9	1212.1	1192.1	1175.5
40°	1255.5	1228.9	1205.5	1178.8	1165.5	1155.6	1132.3	1112.3	1095.6	1079.0	1068.9
42.5°	1119.0	1095.6	1072.3	1055.6	1045.7	1035.6	1019.0	995.8	985.7	969.1	959.0
45°	992.4	972.4	955.8	932.4	925.7	919.1	899.2	882.5	872.5	862.5	855.8
47.5°	872.5	859.2	839.2	825.9	815.8	809.2	795.9	782.5	772.6	765.9	759.3
50°	769.3	752.6	739.3	725.9	719.3	709.3	696.0	689.4	682.7	676.0	676.0
52.5°	672.6	656.0	642.7	632.8	626.1	619.5	609.4	606.1	599.5	599.5	596.1
55°	582.7	572.8	559.5	546.2	542.8	539.5	532.8	526.2	522.8	519.5	522.8
57.5°	506.2	496.2	482.9	472.9	469.6	466.2	462.9	456.3	452.9	452.9	452.9
60°	436.3	426.2	416.3	406.2	406.2	399.6	396.3	392.9	389.6	386.4	386.4
62.5°	373.0	363.0	353.0	346.4	343.0	339.7	333.0	329.7	326.4	326.4	323.0
65°	316.3	303.0	299.7	289.7	286.4	283.0	279.7	273.1	269.7	266.4	263.0
67.5°	259.8	253.1	243.2	236.5	233.1	229.8	226.4	219.8	216.5	213.1	206.4
70°	209.8	203.2	196.5	189.8	186.5	183.2	176.5	169.9	166.5	159.8	149.9
72.5°	163.2	156.5	149.9	143.2	139.8	136.5	129.9	123.2	116.5	109.9	103.2
75°	123.2	116.5	106.6	99.9	96.6	96.6	86.6	80.0	73.3	63.2	56.6
77.5°	86.6	76.6	73.3	66.6	63.2	56.6	49.9	43.3	36.6	33.3	26.7
80°	56.6	49.9	43.3	40.0	36.6	33.3	29.9	23.3	16.6	13.3	9.9
82.5°	33.3	29.9	26.7	23.3	20.0	16.6	13.3	13.3	9.9	6.7	3.3
85°	16.6	13.3	9.9	9.9	6.7	6.7	6.7	3.3	3.3	3.3	3.3
87.5°	6.7	3.3	3.3	3.3	3.3	3.3	3.3	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°	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9
2.5°	2217.8	2214.6	2211.2	2207.9	2207.9	2201.2	2201.2	2198.0	2191.3	2187.9	2187.9
5°	2198.0	2187.9	2181.2	2178.0	2174.6	2164.6	2161.2	2154.6	2147.9	2141.3	2138.0
7.5°	2167.9	2151.3	2144.6	2141.3	2131.3	2121.3	2114.6	2104.7	2094.6	2084.7	2081.3
10°	2131.3	2114.6	2098.0	2091.3	2081.3	2074.6	2061.4	2048.1	2038.0	2028.1	2018.0
12.5°	2084.7	2064.7	2048.1	2041.4	2031.4	2018.0	1998.1	1991.4	1974.8	1968.1	1954.8
15°	2031.4	2008.1	1991.4	1981.5	1971.4	1951.4	1938.2	1924.9	1908.2	1901.5	1888.2
17.5°	1964.7	1938.2	1921.5	1911.5	1904.9	1888.2	1868.2	1851.6	1834.9	1828.2	1818.3
20°	1884.9	1868.2	1844.9	1834.9	1828.2	1808.3	1788.3	1781.7	1768.3	1755.0	1745.0
22.5°	1795.0	1778.3	1755.0	1745.0	1741.7	1725.0	1708.4	1698.3	1688.4	1678.5	1668.4
25°	1701.7	1681.7	1661.7	1655.1	1648.4	1635.1	1621.8	1615.1	1605.2	1598.5	1591.8
27.5°	1601.8	1581.8	1565.2	1555.1	1548.6	1538.5	1531.9	1525.2	1518.5	1511.9	1508.6
30°	1495.3	1475.3	1462.0	1455.3	1448.6	1445.2	1435.3	1431.9	1428.6	1422.0	1425.2
32.5°	1388.7	1372.1	1358.7	1348.7	1348.7	1342.0	1338.7	1338.7	1335.3	1335.3	1335.3
35°	1272.1	1262.2	1252.1	1248.8	1245.5	1242.2	1238.8	1242.2	1238.8	1242.2	1245.5
37.5°	1165.5	1155.6	1148.9	1145.6	1142.2	1145.6	1142.2	1142.2	1145.6	1152.3	1155.6
40°	1055.6	1048.9	1042.3	1045.7	1042.3	1042.3	1042.3	1052.3	1055.6	1059.0	1062.3
42.5°	952.4	945.7	942.4	942.4	945.7	942.4	949.1	952.4	959.0	969.1	975.8
45°	852.6	849.2	849.2	852.6	849.2	855.8	855.8	862.5	872.5	879.2	885.9
47.5°	759.3	759.3	759.3	762.7	762.7	765.9	772.6	776.0	782.5	789.2	795.9
50°	672.6	676.0	679.3	679.3	679.3	686.0	692.6	696.0	699.3	702.7	712.6
52.5°	596.1	599.5	599.5	602.7	606.1	609.4	612.8	619.5	622.7	629.4	632.8
55°	522.8	522.8	529.4	532.8	532.8	532.8	539.5	539.5	546.2	549.4	556.1
57.5°	452.9	456.3	456.3	459.5	459.5	462.9	466.2	469.6	472.9	476.3	479.5
60°	386.4	386.4	386.4	389.6	392.9	396.3	392.9	399.6	399.6	406.2	409.6
62.5°	323.0	326.4	326.4	326.4	326.4	326.4	326.4	329.7	333.0	336.3	339.7
65°	263.0	263.0	263.0	259.8	263.0	259.8	263.0	266.4	266.4	269.7	273.1
67.5°	203.2	203.2	196.5	196.5	199.8	199.8	199.8	199.8	196.5	203.2	203.2
70°	146.5	143.2	139.8	136.5	136.5	133.1	133.1	129.9	129.9	129.9	129.9
72.5°	96.6	89.9	83.2	80.0	76.6	76.6	69.9	66.6	69.9	69.9	69.9
75°	49.9	43.3	40.0	36.6	33.3	33.3	29.9	29.9	29.9	29.9	29.9
77.5°	20.0	16.6	13.3	13.3	9.9	9.9	9.9	9.9	9.9	9.9	9.9
80°	6.7	6.7	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85°	3.3	0.0	0.0	3.3	0.0	3.3	3.3	3.3	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: P584878

CATALOG NUMBER: HC850D010-HM82555930-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9
2.5°	2184.6	2184.6	2181.2	2184.6	2178.0	2181.2	2178.0	2178.0
5°	2134.6	2127.9	2127.9	2127.9	2124.7	2124.7	2121.3	2121.3
7.5°	2074.6	2071.4	2068.1	2064.7	2061.4	2058.0	2058.0	2058.0
10°	2014.8	2008.1	2008.1	2004.7	1998.1	1994.8	1994.8	1994.8
12.5°	1944.7	1941.5	1938.2	1938.2	1924.9	1928.1	1924.9	1924.9
15°	1878.2	1874.8	1874.8	1864.9	1858.2	1858.2	1858.2	1854.9
17.5°	1808.3	1804.9	1801.7	1795.0	1788.3	1788.3	1784.9	1788.3
20°	1735.0	1731.6	1725.0	1725.0	1721.7	1718.3	1711.6	1715.0
22.5°	1661.7	1655.1	1651.8	1651.8	1648.4	1648.4	1641.7	1641.7
25°	1585.2	1581.8	1578.5	1581.8	1575.1	1575.1	1568.4	1568.4
27.5°	1505.2	1501.9	1501.9	1501.9	1498.5	1501.9	1498.5	1498.5
30°	1425.2	1425.2	1422.0	1422.0	1425.2	1422.0	1425.2	1428.6
32.5°	1338.7	1338.7	1342.0	1342.0	1345.4	1345.4	1345.4	1345.4
35°	1248.8	1255.5	1255.5	1258.8	1262.2	1265.4	1265.4	1268.8
37.5°	1165.5	1168.9	1172.2	1175.5	1182.2	1182.2	1182.2	1182.2
40°	1075.6	1079.0	1085.7	1082.3	1095.6	1099.0	1095.6	1095.6
42.5°	982.4	989.1	992.4	999.0	1002.4	1009.1	1012.4	1012.4
45°	895.8	899.2	905.9	912.4	915.8	925.7	925.7	925.7
47.5°	805.9	812.6	815.8	822.5	825.9	835.8	839.2	835.8
50°	719.3	725.9	732.6	732.6	742.7	745.9	752.6	756.0
52.5°	636.1	639.4	646.1	649.4	656.0	662.7	666.0	669.4
55°	556.1	559.5	566.1	566.1	576.1	579.5	586.1	586.1
57.5°	482.9	486.2	492.9	489.6	496.2	502.9	502.9	499.5
60°	412.9	412.9	412.9	419.6	422.9	426.2	429.6	429.6
62.5°	339.7	346.4	349.6	349.6	353.0	356.3	356.3	353.0
65°	273.1	279.7	283.0	283.0	286.4	286.4	286.4	289.7
67.5°	206.4	206.4	206.4	209.8	206.4	206.4	206.4	206.4
70°	129.9	129.9	129.9	129.9	126.6	129.9	129.9	133.1
72.5°	69.9	69.9	69.9	69.9	69.9	69.9	69.9	69.9
75°	29.9	29.9	29.9	33.3	29.9	29.9	29.9	29.9
77.5°	13.3	9.9	13.3	13.3	9.9	9.9	9.9	9.9
80°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85°	0.0	3.3	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



Report Generated By 670245859 / DESKTOP-HRDQ47P





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













(END OF REPORT)