

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: P584793

Luminaire Tested: **HC850D010-HM82555827-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584793
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-HM82555827-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4322.1 lumens
Efficiency: N/A
Efficacy: 90.0 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

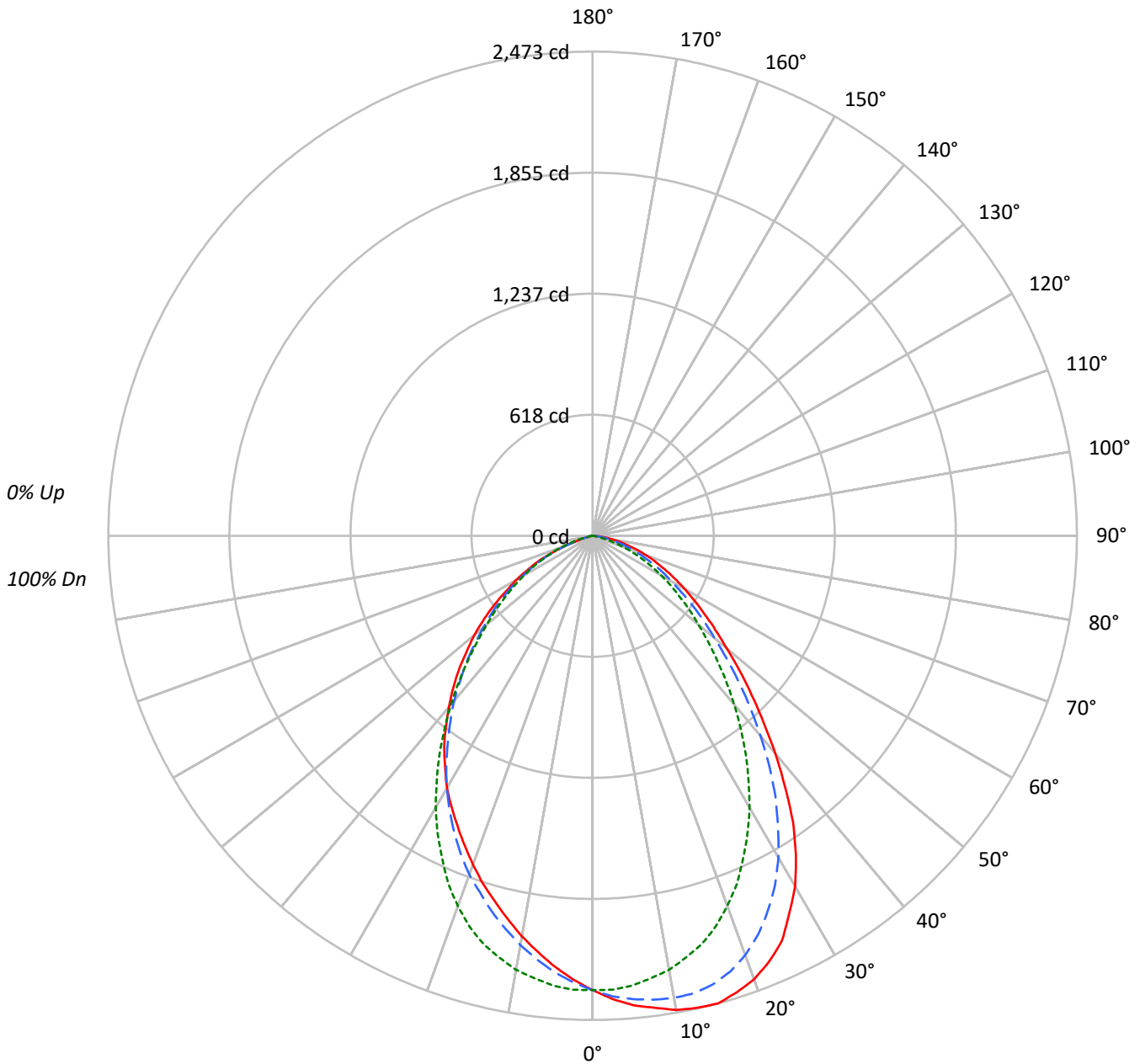
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77			77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			67
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59			59
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53			53
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47			47
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43			43
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39			39
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35			35
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32			32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	71550	71550	71550
5°	74510	71393	68390
10°	76999	70483	65051
15°	78948	68873	61674
20°	79105	66015	58615
25°	77766	61835	55582
30°	73603	57053	52979
35°	67108	51313	49743
40°	58360	45237	45934
45°	50068	39174	42048
50°	42763	33778	37769
55°	37482	29085	32821
60°	33365	24817	27592
65°	29609	20248	22014
70°	26263	15012	12514
75°	21910	7851	3717
80°	17243	2468	622
85°	12277	1238	0



TEST NUMBER: P584793

CATALOG NUMBER: HC850D010-HM82555827-81WWBB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.6	5.1
10°-20°	612.8	14.2
20°-30°	867.4	20.1
30°-40°	907.4	21.0
40°-50°	756.9	17.5
50°-60°	536.7	12.4
60°-70°	309.1	7.2
70°-80°	99.5	2.3
80°-90°	13.7	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°	1698.8	39.3
0°-40°	2606.2	60.3
0°-60°	3899.8	90.2
0°-90°	4322.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4322.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2320	2320	2320	2320	2320	
5°	2407	2376	2306	2237	2209	231
15°	2473	2372	2157	1987	1932	695
25°	2286	2116	1817	1672	1634	1043
35°	1783	1627	1363	1290	1321	1105
45°	1148	1054	898	909	964	890
55°	697	624	541	569	610	630
65°	406	340	278	278	302	406
75°	184	135	66	31	31	199
85°	35	17	4	0	0	43
90°	0	0	0	0	0	



TEST NUMBER: P584793

CATALOG NUMBER: HC850D010-HM82555827-81WWBB

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3
2.5°	2369.0	2365.5	2362.0	2365.5	2362.0	2365.5	2362.0	2362.0	2358.5	2355.1	2355.1
5°	2407.1	2403.6	2403.6	2403.6	2400.2	2396.7	2396.7	2393.2	2386.3	2382.8	2375.9
7.5°	2431.4	2434.8	2434.8	2434.8	2427.9	2427.9	2421.0	2414.0	2407.1	2400.2	2389.8
10°	2459.1	2459.1	2455.6	2452.2	2445.2	2441.8	2438.3	2431.4	2421.0	2407.1	2396.7
12.5°	2469.5	2469.5	2466.0	2459.1	2455.6	2452.2	2448.7	2438.3	2424.4	2407.1	2393.2
15°	2473.0	2466.0	2462.6	2459.1	2452.2	2441.8	2441.8	2427.9	2410.6	2389.8	2372.4
17.5°	2445.2	2448.7	2441.8	2434.8	2424.4	2417.5	2407.1	2396.7	2375.9	2351.6	2334.3
20°	2410.6	2407.1	2403.6	2393.2	2379.4	2375.9	2365.5	2348.1	2330.8	2303.0	2278.7
22.5°	2355.1	2351.6	2344.7	2337.6	2323.9	2316.8	2306.4	2285.6	2261.4	2233.6	2205.9
25°	2285.6	2278.7	2268.3	2254.4	2244.0	2237.1	2223.2	2202.4	2174.7	2143.5	2115.8
27.5°	2174.7	2185.1	2178.2	2157.4	2147.0	2133.1	2129.6	2101.9	2077.5	2046.3	2015.1
30°	2067.1	2067.1	2056.7	2046.3	2029.0	2018.6	2004.7	1983.9	1959.6	1921.5	1897.2
32.5°	1931.9	1928.4	1914.6	1911.1	1897.2	1876.4	1873.0	1845.1	1821.0	1793.1	1761.9
35°	1782.7	1775.8	1761.9	1751.5	1744.6	1734.2	1723.8	1699.5	1675.3	1647.5	1626.7
37.5°	1612.8	1612.8	1609.4	1591.9	1585.0	1578.2	1567.7	1543.4	1529.5	1501.8	1481.0
40°	1449.8	1446.3	1435.9	1432.5	1425.5	1415.1	1408.2	1394.3	1373.5	1352.6	1331.8
42.5°	1290.2	1293.7	1279.8	1283.3	1269.4	1262.5	1259.0	1238.2	1227.8	1207.0	1189.7
45°	1148.1	1144.6	1137.7	1134.2	1127.3	1120.3	1113.4	1103.0	1085.7	1064.8	1054.4
47.5°	1016.2	1005.8	1005.8	1002.4	998.9	985.0	981.6	971.2	960.8	940.0	926.1
50°	891.4	891.4	891.4	887.9	877.5	874.1	867.0	856.6	846.2	832.4	811.6
52.5°	790.8	790.8	790.8	787.3	773.4	770.0	766.5	752.6	738.8	728.4	714.5
55°	697.2	700.6	697.2	690.2	679.8	679.8	669.4	662.5	648.6	638.2	624.4
57.5°	617.3	617.3	610.5	606.9	600.0	596.5	589.6	582.7	565.3	554.9	537.6
60°	541.0	537.6	537.6	530.6	523.7	516.8	513.3	502.9	496.0	478.6	464.8
62.5°	471.7	471.7	464.8	464.8	450.9	450.9	447.4	437.0	426.6	409.3	402.4
65°	405.8	405.8	402.4	398.9	388.5	385.0	381.6	371.2	360.8	350.3	339.9
67.5°	346.8	346.8	339.9	336.4	329.5	326.0	319.1	312.1	301.7	291.3	280.9
70°	291.3	287.9	284.4	280.9	274.0	270.5	263.6	256.7	246.3	239.3	228.9
72.5°	235.9	235.9	232.4	225.5	222.0	218.5	215.1	208.1	197.7	187.3	180.4
75°	183.9	183.9	183.9	176.9	170.0	166.5	166.5	159.6	152.6	142.2	135.3
77.5°	142.2	138.8	135.3	135.3	128.4	124.8	121.3	118.0	107.5	104.0	97.1
80°	97.1	100.5	97.1	93.6	90.1	86.7	86.7	79.7	76.3	69.3	62.4
82.5°	65.9	62.4	62.4	58.9	58.9	55.5	55.5	48.5	45.1	41.6	38.1
85°	34.7	34.7	31.2	31.2	31.2	27.7	27.7	24.3	24.3	20.8	17.3
87.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	6.9	6.9	6.9
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: P584793

CATALOG NUMBER: HC850D010-HM82555827-81WWBB

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3
2.5°	2351.6	2344.7	2341.2	2341.2	2337.6	2334.3	2330.8	2327.2	2320.3	2320.3	2313.5
5°	2369.0	2362.0	2358.5	2348.1	2341.2	2341.2	2327.2	2323.9	2313.5	2306.4	2299.5
7.5°	2382.8	2369.0	2358.5	2348.1	2341.2	2334.3	2320.3	2306.4	2292.6	2278.7	2271.8
10°	2382.8	2369.0	2351.6	2334.3	2327.2	2320.3	2303.0	2282.2	2264.8	2251.0	2233.6
12.5°	2375.9	2355.1	2334.3	2320.3	2306.4	2296.0	2275.2	2254.4	2233.6	2205.9	2192.0
15°	2355.1	2327.2	2306.4	2282.2	2271.8	2254.4	2237.1	2205.9	2181.6	2157.4	2140.0
17.5°	2313.5	2278.7	2254.4	2230.2	2212.8	2202.4	2174.7	2147.0	2119.2	2091.5	2070.6
20°	2251.0	2219.8	2192.0	2160.8	2147.0	2133.1	2098.4	2070.6	2042.9	2011.7	1990.8
22.5°	2174.7	2143.5	2105.4	2081.1	2060.2	2042.9	2011.7	1980.4	1952.7	1925.0	1897.2
25°	2081.1	2049.8	2015.1	1977.0	1963.1	1945.8	1911.1	1879.9	1848.7	1817.4	1793.1
27.5°	1980.4	1938.8	1911.1	1869.5	1855.6	1838.3	1800.1	1765.4	1737.7	1713.4	1685.7
30°	1859.1	1827.8	1789.7	1751.5	1737.7	1720.3	1689.1	1657.9	1630.2	1602.3	1574.6
32.5°	1727.3	1696.1	1657.9	1630.2	1609.4	1595.5	1564.2	1536.5	1508.7	1481.0	1456.7
35°	1588.6	1553.8	1526.1	1498.3	1481.0	1463.7	1432.5	1408.2	1387.4	1363.1	1338.9
37.5°	1446.3	1422.1	1394.3	1363.1	1345.8	1331.8	1307.6	1279.8	1262.5	1241.7	1224.3
40°	1307.6	1279.8	1255.5	1227.8	1213.9	1203.5	1179.3	1158.5	1141.1	1123.8	1113.4
42.5°	1165.4	1141.1	1116.9	1099.4	1089.0	1078.6	1061.3	1037.0	1026.6	1009.3	998.9
45°	1033.6	1012.8	995.4	971.2	964.2	957.3	936.5	919.2	908.7	898.3	891.4
47.5°	908.7	894.9	874.1	860.2	849.7	842.8	828.9	815.0	804.6	797.7	790.8
50°	801.2	783.8	770.0	756.1	749.2	738.8	724.9	718.0	711.0	704.1	704.1
52.5°	700.6	683.3	669.4	659.0	652.1	645.2	634.8	631.3	624.4	624.4	620.9
55°	606.9	596.5	582.7	568.8	565.3	561.9	554.9	548.0	544.5	541.0	544.5
57.5°	527.2	516.8	502.9	492.5	489.0	485.6	482.1	475.2	471.7	471.7	471.7
60°	454.4	444.0	433.6	423.2	423.2	416.2	412.8	409.3	405.8	402.4	402.4
62.5°	388.5	378.1	367.7	360.8	357.2	353.7	346.8	343.3	339.9	339.9	336.4
65°	329.5	315.6	312.1	301.7	298.3	294.8	291.3	284.4	280.9	277.5	274.0
67.5°	270.5	263.6	253.2	246.3	242.8	239.3	235.9	228.9	225.5	222.0	215.1
70°	218.5	211.6	204.7	197.7	194.3	190.8	183.9	176.9	173.4	166.5	156.1
72.5°	170.0	163.0	156.1	149.2	145.7	142.2	135.3	128.4	121.3	114.4	107.5
75°	128.4	121.3	110.9	104.0	100.5	100.5	90.1	83.2	76.3	65.9	58.9
77.5°	90.1	79.7	76.3	69.3	65.9	58.9	52.0	45.1	38.1	34.7	27.7
80°	58.9	52.0	45.1	41.6	38.1	34.7	31.2	24.3	17.3	13.9	10.4
82.5°	34.7	31.2	27.7	24.3	20.8	17.3	13.9	13.9	10.4	6.9	3.5
85°	17.3	13.9	10.4	10.4	6.9	6.9	6.9	3.5	3.5	3.5	3.5
87.5°	6.9	3.5	3.5	3.5	3.5	3.5	3.5	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: P584793

CATALOG NUMBER: HC850D010-HM82555827-81WWBB

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3
2.5°	2309.9	2306.4	2303.0	2299.5	2299.5	2292.6	2292.6	2289.1	2282.2	2278.7	2278.7
5°	2289.1	2278.7	2271.8	2268.3	2264.8	2254.4	2251.0	2244.0	2237.1	2230.2	2226.7
7.5°	2257.9	2240.6	2233.6	2230.2	2219.8	2209.4	2202.4	2192.0	2181.6	2171.2	2167.8
10°	2219.8	2202.4	2185.1	2178.2	2167.8	2160.8	2147.0	2133.1	2122.7	2112.3	2101.9
12.5°	2171.2	2150.4	2133.1	2126.2	2115.8	2101.9	2081.1	2074.2	2056.7	2049.8	2035.9
15°	2115.8	2091.5	2074.2	2063.8	2053.3	2032.5	2018.6	2004.7	1987.4	1980.4	1966.6
17.5°	2046.3	2018.6	2001.2	1990.8	1983.9	1966.6	1945.8	1928.4	1911.1	1904.2	1893.8
20°	1963.1	1945.8	1921.5	1911.1	1904.2	1883.4	1862.6	1855.6	1841.8	1827.8	1817.4
22.5°	1869.5	1852.2	1827.8	1817.4	1813.9	1796.6	1779.3	1768.9	1758.5	1748.1	1737.7
25°	1772.3	1751.5	1730.7	1723.8	1716.9	1703.0	1689.1	1682.2	1671.8	1664.9	1657.9
27.5°	1668.3	1647.5	1630.2	1619.8	1612.8	1602.3	1595.5	1588.6	1581.5	1574.6	1571.1
30°	1557.3	1536.5	1522.6	1515.7	1508.7	1505.3	1494.9	1491.4	1487.9	1481.0	1484.5
32.5°	1446.3	1429.0	1415.1	1404.7	1404.7	1397.8	1394.3	1394.3	1390.9	1390.9	1390.9
35°	1324.9	1314.5	1304.1	1300.6	1297.2	1293.7	1290.2	1293.7	1290.2	1293.7	1297.2
37.5°	1213.9	1203.5	1196.6	1193.1	1189.7	1193.1	1189.7	1189.7	1193.1	1200.1	1203.5
40°	1099.4	1092.5	1085.7	1089.0	1085.7	1085.7	1085.7	1096.1	1099.4	1103.0	1106.5
42.5°	992.0	985.0	981.6	981.6	985.0	981.6	988.5	992.0	998.9	1009.3	1016.2
45°	887.9	884.5	884.5	887.9	884.5	891.4	891.4	898.3	908.7	915.7	922.6
47.5°	790.8	790.8	790.8	794.2	794.2	797.7	804.6	808.1	815.0	822.0	828.9
50°	700.6	704.1	707.6	707.6	707.6	714.5	721.4	724.9	728.4	731.8	742.2
52.5°	620.9	624.4	624.4	627.8	631.3	634.8	638.2	645.2	648.6	655.6	659.0
55°	544.5	544.5	551.5	554.9	554.9	554.9	561.9	561.9	568.8	572.3	579.2
57.5°	471.7	475.2	475.2	478.6	478.6	482.1	485.6	489.0	492.5	496.0	499.4
60°	402.4	402.4	402.4	405.8	409.3	412.8	409.3	416.2	416.2	423.2	426.6
62.5°	336.4	339.9	339.9	339.9	339.9	339.9	339.9	343.3	346.8	350.3	353.7
65°	274.0	274.0	274.0	270.5	274.0	270.5	274.0	277.5	277.5	280.9	284.4
67.5°	211.6	211.6	204.7	204.7	208.1	208.1	208.1	208.1	204.7	211.6	211.6
70°	152.6	149.2	145.7	142.2	142.2	138.8	138.8	135.3	135.3	135.3	135.3
72.5°	100.5	93.6	86.7	83.2	79.7	79.7	72.8	69.3	72.8	72.8	72.8
75°	52.0	45.1	41.6	38.1	34.7	34.7	31.2	31.2	31.2	31.2	31.2
77.5°	20.8	17.3	13.9	13.9	10.4	10.4	10.4	10.4	10.4	10.4	10.4
80°	6.9	6.9	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	3.5	0.0	0.0	3.5	0.0	3.5	3.5	3.5	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: P584793

CATALOG NUMBER: HC850D010-HM82555827-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3	2320.3
2.5°	2275.2	2275.2	2271.8	2275.2	2268.3	2271.8	2268.3	2268.3
5°	2223.2	2216.3	2216.3	2216.3	2212.8	2212.8	2209.4	2209.4
7.5°	2160.8	2157.4	2153.9	2150.4	2147.0	2143.5	2143.5	2143.5
10°	2098.4	2091.5	2091.5	2088.0	2081.1	2077.5	2077.5	2077.5
12.5°	2025.5	2022.1	2018.6	2018.6	2004.7	2008.2	2004.7	2004.7
15°	1956.2	1952.7	1952.7	1942.3	1935.4	1935.4	1935.4	1931.9
17.5°	1883.4	1879.9	1876.4	1869.5	1862.6	1862.6	1859.1	1862.6
20°	1807.0	1803.5	1796.6	1796.6	1793.1	1789.7	1782.7	1786.2
22.5°	1730.7	1723.8	1720.3	1720.3	1716.9	1716.9	1709.9	1709.9
25°	1651.0	1647.5	1644.1	1647.5	1640.6	1640.6	1633.6	1633.6
27.5°	1567.7	1564.2	1564.2	1564.2	1560.7	1564.2	1560.7	1560.7
30°	1484.5	1484.5	1481.0	1481.0	1484.5	1481.0	1484.5	1487.9
32.5°	1394.3	1394.3	1397.8	1397.8	1401.3	1401.3	1401.3	1401.3
35°	1300.6	1307.6	1307.6	1311.0	1314.5	1318.0	1318.0	1321.4
37.5°	1213.9	1217.4	1220.9	1224.3	1231.3	1231.3	1231.3	1231.3
40°	1120.3	1123.8	1130.7	1127.3	1141.1	1144.6	1141.1	1141.1
42.5°	1023.2	1030.1	1033.6	1040.5	1044.0	1050.9	1054.4	1054.4
45°	933.0	936.5	943.4	950.4	953.8	964.2	964.2	964.2
47.5°	839.3	846.2	849.7	856.6	860.2	870.6	874.1	870.6
50°	749.2	756.1	763.0	763.0	773.4	776.9	783.8	787.3
52.5°	662.5	666.0	672.9	676.4	683.3	690.2	693.7	697.2
55°	579.2	582.7	589.6	589.6	600.0	603.6	610.5	610.5
57.5°	502.9	506.4	513.3	509.8	516.8	523.7	523.7	520.2
60°	430.1	430.1	430.1	437.0	440.5	444.0	447.4	447.4
62.5°	353.7	360.8	364.1	364.1	367.7	371.2	371.2	367.7
65°	284.4	291.3	294.8	294.8	298.3	298.3	298.3	301.7
67.5°	215.1	215.1	215.1	218.5	215.1	215.1	215.1	215.1
70°	135.3	135.3	135.3	135.3	131.7	135.3	135.3	138.8
72.5°	72.8	72.8	72.8	72.8	72.8	72.8	72.8	72.8
75°	31.2	31.2	31.2	34.7	31.2	31.2	31.2	31.2
77.5°	13.9	10.4	13.9	13.9	10.4	10.4	10.4	10.4
80°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
85°	0.0	3.5	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)